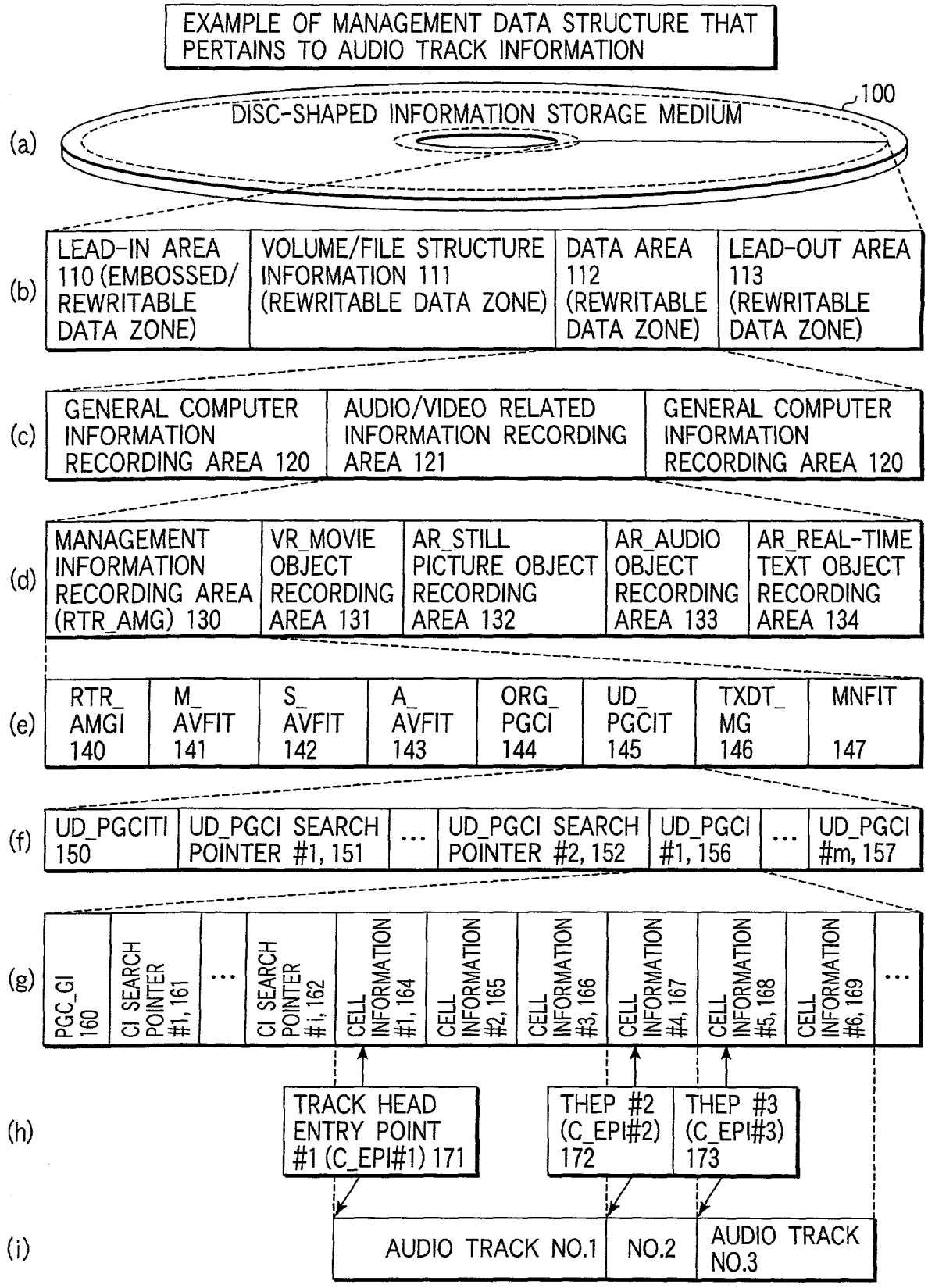

EXAMPLE OF MANAGEMENT DATA STRUCTURE THAT PERTAINS TO AUDIO TRACK INFORMATION
(a)
DISC-SHAPED INFORMATION STORAGE MEDIUM
100
(b)
LEAD-IN AREA 110 (EMBOSSED/ REWRITABLE DATA ZONE)
VOLUME/FILE STRUCTURE INFORMATION 111 (REWRITABLE DATA ZONE)
DATA AREA 112 (REWRITABLE DATA ZONE)
LEAD-OUT AREA 113 (REWRITABLE DATA ZONE)
(c)
GENERAL COMPUTER INFORMATION RECORDING AREA 120
AUDIO/VIDEO RELATED INFORMATION RECORDING AREA 121
GENERAL COMPUTER INFORMATION RECORDING AREA 120
(d)
MANAGEMENT INFORMATION RECORDING AREA (RTR_AMG) 130
VR_MOVIE OBJECT RECORDING AREA 131
AR_STILL PICTURE OBJECT RECORDING AREA 132
AR_AUDIO OBJECT RECORDING AREA 133
AR_REAL-TIME TEXT OBJECT RECORDING AREA 134
(e)
RTR_ AMGI 140
M_ AVFIT 141
S_ AVFIT 142
A_ AVFIT 143
ORG_ PGCI 144
UD_ PGCIT 145
TXDT_ MG 146
MNFIT 147
(f)
UD_PGCITI 150
UD_PGCI SEARCH POINTER #1, 151
...
UD_PGCI SEARCH POINTER #2, 152
UD_PGCI #1, 156
...
UD_PGCI #m, 157
(g)
PGC_GI 160
CI SEARCH POINTER #1, 161
...
CI SEARCH POINTER #i, 162
CELL INFORMATION #1, 164
CELL INFORMATION #2, 165
CELL INFORMATION #3, 166
CELL INFORMATION #4, 167
CELL INFORMATION #5, 168
CELL INFORMATION #6, 169
...
(h)
TRACK HEAD ENTRY POINT #1 (C_EPI#1) 171
THEP #2 (C_EPI#2) 172
THEP #3 (C_EPI#3) 173
(i)
AUDIO TRACK NO.1
NO.2
AUDIO TRACK NO.3

FIG. 1

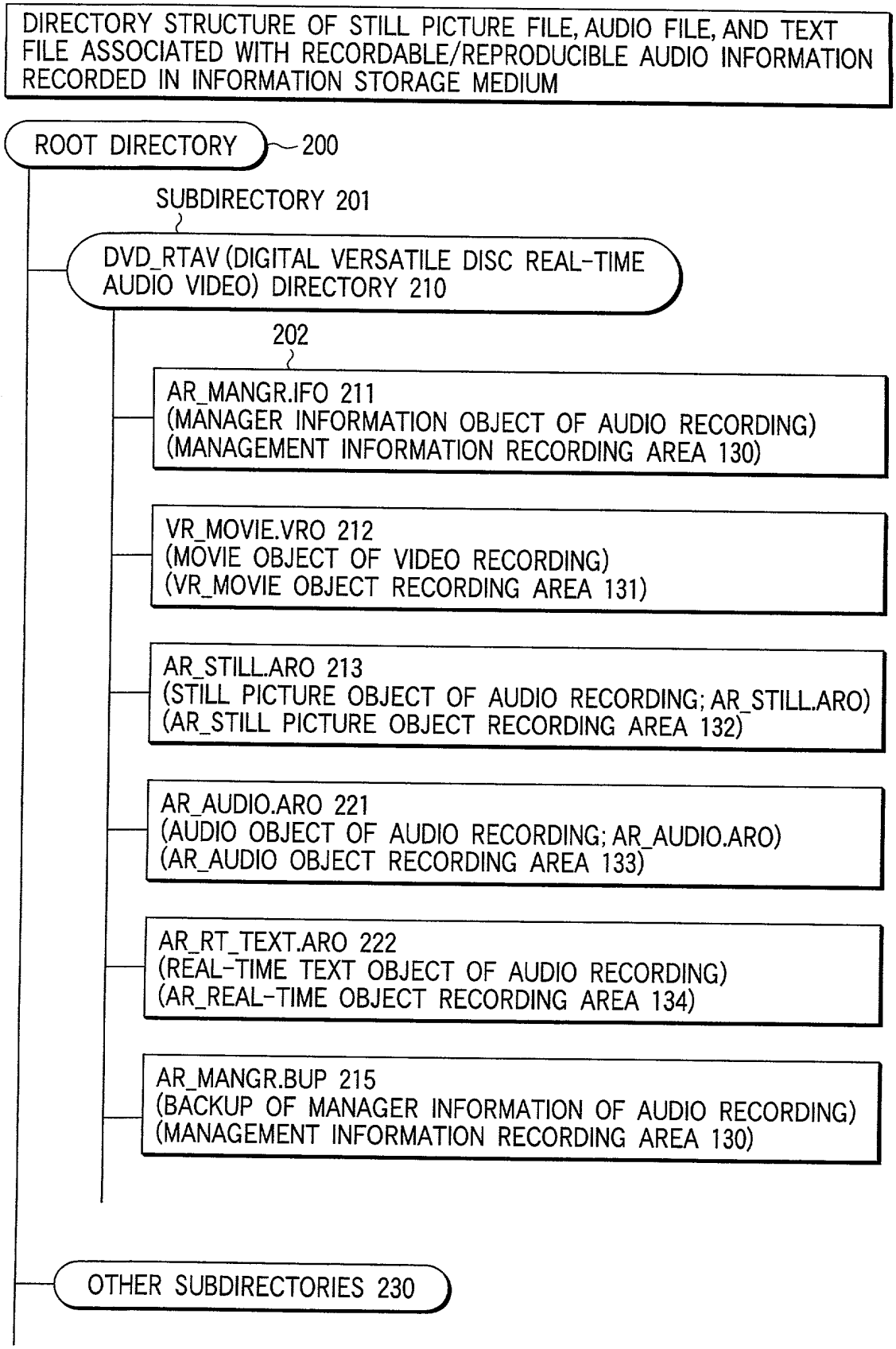
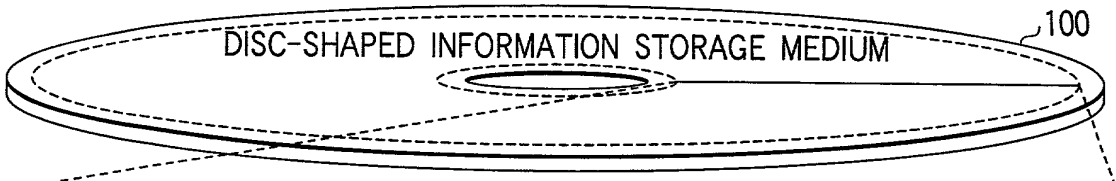

DIRECTORY STRUCTURE OF STILL PICTURE FILE, AUDIO FILE, AND TEXT FILE ASSOCIATED WITH RECORDABLE/REPRODUCIBLE AUDIO INFORMATION RECORDED IN INFORMATION STORAGE MEDIUM
ROOT DIRECTORY
200
SUBDIRECTORY 201
DVD_RTAV (DIGITAL VERSATILE DISC REAL-TIME AUDIO VIDEO) DIRECTORY 210
202
AR_MANGR.IFO 211
(MANAGER INFORMATION OBJECT OF AUDIO RECORDING)
(MANAGEMENT INFORMATION RECORDING AREA 130)
VR_MOVIE.VRO 212
(MOVIE OBJECT OF VIDEO RECORDING)
(VR_MOVIE OBJECT RECORDING AREA 131)
AR_STILL.ARO 213
(STILL PICTURE OBJECT OF AUDIO RECORDING; AR_STILL.ARO)
(AR_STILL PICTURE OBJECT RECORDING AREA 132)
AR_AUDIO.ARO 221
(AUDIO OBJECT OF AUDIO RECORDING; AR_AUDIO.ARO)
(AR_AUDIO OBJECT RECORDING AREA 133)
AR_RT_TEXT.ARO 222
(REAL-TIME TEXT OBJECT OF AUDIO RECORDING)
(AR_REAL-TIME OBJECT RECORDING AREA 134)
AR_MANGR.BUP 215
(BACKUP OF MANAGER INFORMATION OF AUDIO RECORDING)
(MANAGEMENT INFORMATION RECORDING AREA 130)
OTHER SUBDIRECTORIES 230

FIG. 2

EXAMPLE OF MANAGEMENT INFORMATION DATA STRUCTURE THAT PERTAINS TO AUDIO INFORMATION RECORDED IN INFORMATION STORAGE MEDIUM

(a)



(b)

LEAD-IN AREA 100	VOLUME/FILE STRUCTURE INFORMATION 111	DATA AREA 112	LEAD-OUT AREA 113

(c)

GENERAL COMPUTER INFORMATION RECORDING AREA 120	AUDIO/VIDEO RELATED INFORMATION RECORDING AREA 121	GENERAL COMPUTER INFORMATION RECORDING AREA 120

(d)

MANAGEMENT INFORMATION RECORDING AREA (RTR_AMG) 130	VR_MOVIE OBJECT RECORDING AREA 131	AR_STILL PICTURE OBJECT RECORDING AREA 132	AR_AUDIO OBJECT RECORDING AREA 133	AR_REAL-TIME TEXT OBJECT RECORDING AREA 134

(e)

RTR_ AMGI 140	M_ AVFIT 141	S_ AVFIT 142	A_AVFIT (AUDFIT) 143	ORG_ PGCI 144	UD_ PGCIT 145	TXDT_ MG 146	MNFIT 147

(f)

A_AVFIT INFORMATION (AUD FITI) 180	AUDIO OBJECT STREAM INFORMATION #1 (AUD_STI#1) 181	...	AUDIO OBJECT STREAM INFORMATION #k (AUD_STI#k) 182	AUDIO AV FILE INFORMATION (AUDFI) 184	REAL-TIME TEXT OBJECT STREAM INFORMATION #1, 186	...	REAL-TIME TEXT AV FILE INFORMATION 189

(g)

AUDIO AV FILE GENERAL INFORMATION (AUDFI_GI) 190	AOBI SEARCH POINTER #1 (AOBI_ SRP#1) 191	...	AOBI SEARCH POINTER # i (AOBI_ SRP# i) 192	AUDIO OBJECT INFORMATION (AOBI) #1, 196	...	AUDIO OBJECT INFORMATION (AOBI) # i, 197

(h)

AUDIO OBJECT GENERAL INFORMATION (AOB_GI/AOBU_GI) 240	AUDIO OBJECT UNIT ENTRY #1 (AOBU_ENT#1) 241	...	AUDIO OBJECT UNIT ENTRY #h (AOBU_ENT#h) 248

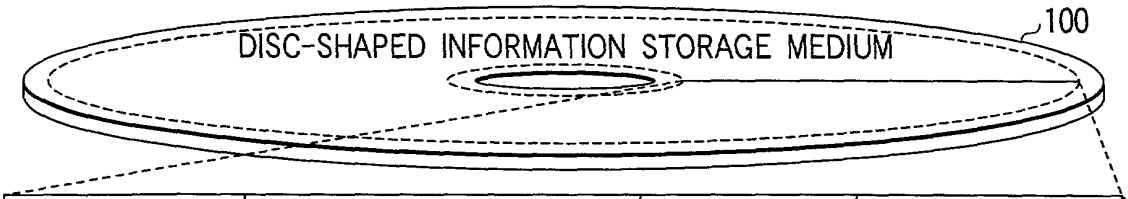
(i)

AUDIO OBJECT UNIT DATA SIZE (AOBU_SZ) 251	AUDIO OBJECT UNIT PRESENTATION TIME (FOR EXAMPLE, 1 SEC→ AOBU_SZ CORRESPONDS TO 1 SEC) 252	REAL-TIME TEXT POSITION (DIFFERENCE ADDRESS) (MAY BE OPTIONAL) 253

FIG. 3

EXAMPLE OF MANAGEMENT INFORMATION DATA STRUCTURE THAT PERTAINS TO STILL PICTURE INFORMATION RECORDED IN INFORMATION STORAGE MEDIUM

(a)



(b)

LEAD-IN AREA 100	VOLUME/FILE STRUCTURE INFORMATION 111	DATA AREA 112	LEAD-OUT AREA 113

(c)

GENERAL COMPUTER INFORMATION RECORDING AREA 120	AUDIO/VIDEO RELATED INFORMATION RECORDING AREA 121	GENERAL COMPUTER INFORMATION RECORDING AREA 120

(d)

MANAGEMENT INFORMATION RECORDING AREA (RTR_AMG) 130	VR_MOVIE OBJECT RECORDING AREA 131	AR_STILL PICTURE OBJECT RECORDING AREA 132	AR_AUDIO OBJECT RECORDING AREA 133	AR_REAL-TIME TEXT OBJECT RECORDING AREA 134

(e)

RTR_ AMGI 140	M_ AVFIT 141	S_AVFIT (ASVFIT) 142	A_ AVFIT 143	ORG_ PGCI 144	UD_ PGCIT 145	TXDT_ MG 146	MNFIT 147

(f)

A_AVFIT INFORMATION (ASVFITI) 260	STILL PICTURE VOB STREAM INFORMATION #1 (ASV_STI#1) 261	...	STILL PICTURE VOB STREAM INFORMATION # i (ASV_STI# i) 262	STILL PICTURE AV FILE INFORMATION (S_AVFI/ASVFI) 264

(g)

S_AVFI GENERAL INFORMATION (ASVFI_GI) 270	S_VOGI SEARCH POINTER #1 (ASVUI_ SRP#1) 271	...	S_VOGI SEARCH POINTER #g (ASVUI_ SRP#g) 272	STILL PICTURE VOB GROUP INFORMATION #1 (ASVUI#1) 273	...	STILL PICTURE VOB GROUP INFORMATION #g (ASVUI#g) 279

(h)

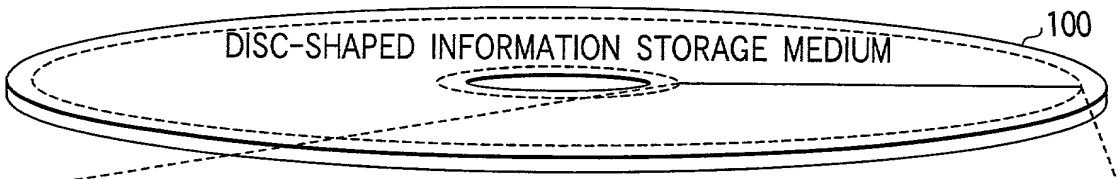
STILL PICTURE VOB GROUP GENERAL INFORMATION (ASVU_GI) 280	STILL PICTURE VOB ENTRY #1 (ASVOB_ENT#1) 281	...	STILL PICTURE VOB ENTRY #f (ASVOB_ENT#f) 289

(i)

STILL PICTURE VOB ENTRY TYPE (ASVOB_ENT_TY) 291	ONE STILL PICTURE SIZE (SIZE OF VIDEO PART) (ASVOB_SZ) 292

FIG. 4

EXAMPLE OF MANAGEMENT INFORMATION DATA STRUCTURE THAT PERTAINS TO TEXT INFORMATION RECORDED IN INFORMATION STORAGE MEDIUM



(b)

LEAD-IN AREA 100	VOLUME/FILE STRUCTURE INFORMATION 111	DATA AREA 112	LEAD-OUT AREA 113

(c)

GENERAL COMPUTER INFORMATION RECORDING AREA 120	AUDIO/VIDEO RELATED INFORMATION RECORDING AREA 121	GENERAL COMPUTER INFORMATION RECORDING AREA 120

(d)

MANAGEMENT INFORMATION RECORDING AREA (RTR_AMG) 130	VR_MOVIE OBJECT RECORDING AREA 131	AR_STILL PICTURE OBJECT RECORDING AREA 132	AR_AUDIO OBJECT RECORDING AREA 133	AR_REAL-TIME TEXT OBJECT RECORDING AREA 134

(e)

RTR_ AMGI 140	M_ AVFIT 141	S_ AVFIT 142	A_ AVFIT 143	ORG_ PGCI 144	UD_ PGCIT 145	TXDT_MG (TXTDT_MG) 146	MNFIT 147

(f)

TEXT DATA INFORMATION (TXTDTI) 231	ITEM TEXT SEARCH POINTER #1 (IT_TXT_SRP#1) 232	...	ITEM TEXT SEARCH POINTER #e (IT_TXT_SRP#e) 233	ITEM TEXT (IT_TXT) #1 236	...	ITEM TEXT (IT_TXT) #e 238

(g)

ITEM TEXT (IT_TXT) 239
(GENERAL TEXT INFORMATION : TEXT INFORMATION CONCENTRATIVELY MANAGED IN ONE LOCATION)

FIG. 5

WINDOW IMAGE UPON CREATION

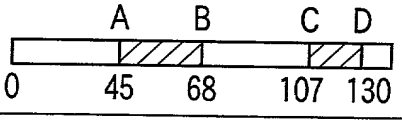
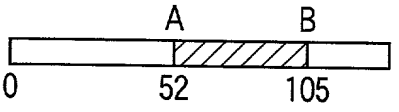
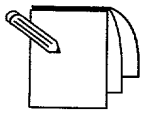
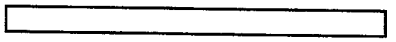
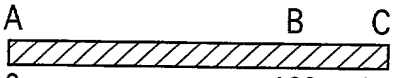
ORIGINAL TRACK 1			
TRACK TITLE 3	PICTURE 5	DISPLAY MODE 7	TIME CHART 11
AUTOMATIC		SLIDESHOW SEQUENTIAL	
FIRST LOVE		SLIDESHOW SHUFFLE	
IN MY ROOM		BROWSABLE SEQUENTIAL	
ANOTHER CHANCE		BROWSABLE RANDOM	
.....	.....	.....	.....

FIG. 6A

PLAY LIST #1 2				
NEW TRACK TITLE 4	MIXING RATE 9	DISPLAY MODE 8	STILL 10	PICTURE 6
NEW TRACK No.1 (C1 #1 164 +C1 #1 165 +C1 #1 166)	AUTOMATIC A-B ANOTHER CHANCE A-B ANOTHER CHANCE B-C	SLIDESHOW SEQUENTIAL	ORIGINAL	
NEW TRACK No.2 (C1 #4 167)	IN MY ROOM	BROWSABLE RANDOM	NEWLY SET	
NEW TRACK No.3 (C1 #5 168 +C1 #6 169)	FIRST LOVE A-B & AUTOMATIC C-D	SLIDESHOW SEQUENTIAL	ORIGINAL	
.....	.....	.....	.....	.....

FIG. 6B

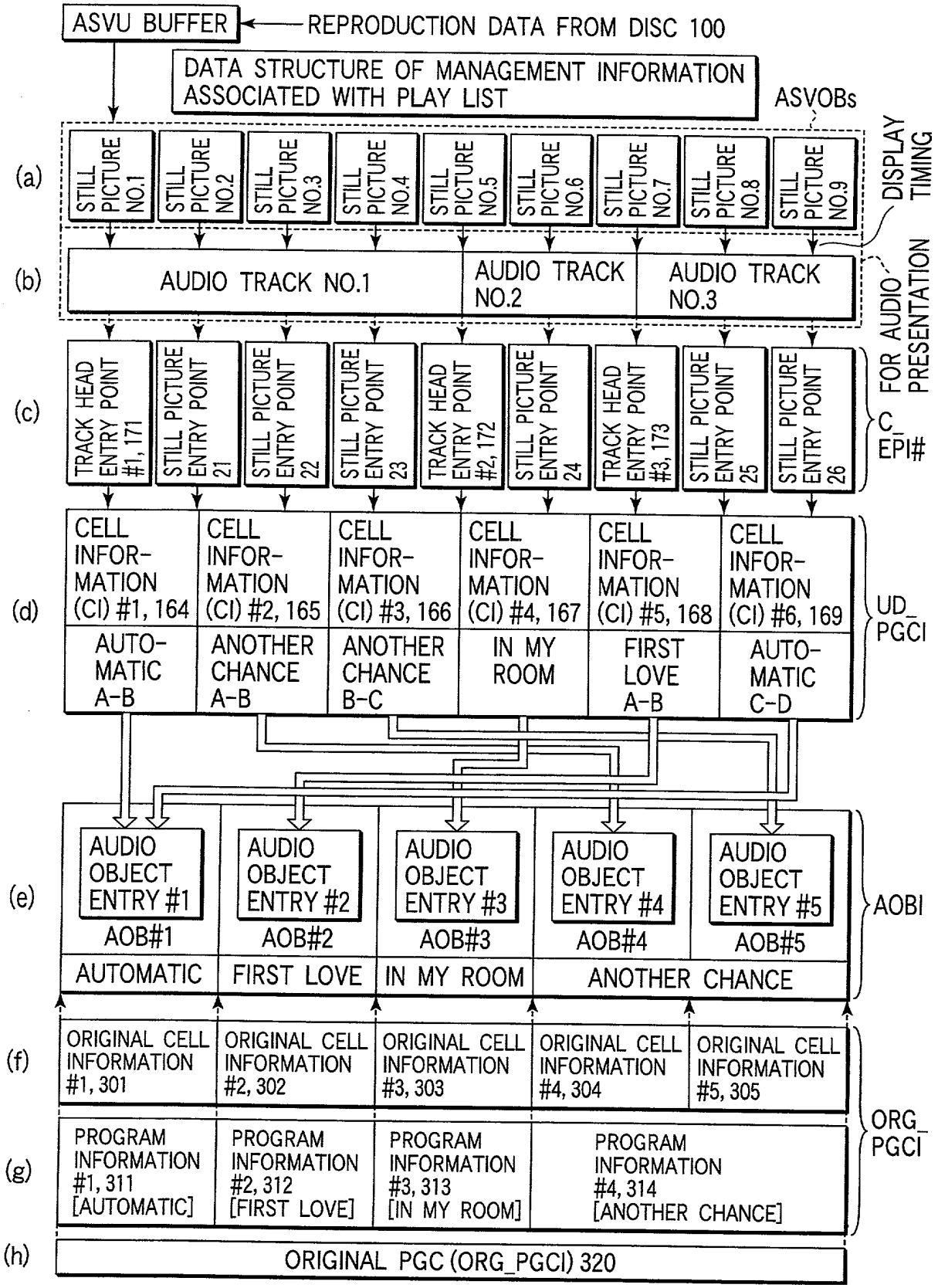

ASVU BUFFER
REPRODUCTION DATA FROM DISC 100
DATA STRUCTURE OF MANAGEMENT INFORMATION ASSOCIATED WITH PLAY LIST
ASVOBs
(a)
STILL PICTURE NO.1
STILL PICTURE NO.2
STILL PICTURE NO.3
STILL PICTURE NO.4
STILL PICTURE NO.5
STILL PICTURE NO.6
STILL PICTURE NO.7
STILL PICTURE NO.8
STILL PICTURE NO.9
DISPLAY TIMING
(b)
AUDIO TRACK NO.1
AUDIO TRACK NO.2
AUDIO TRACK NO.3
FOR AUDIO PRESENTATION
(c)
TRACK HEAD ENTRY POINT #1, 171
STILL PICTURE ENTRY POINT 21
STILL PICTURE ENTRY POINT 22
STILL PICTURE ENTRY POINT 23
TRACK HEAD ENTRY POINT #2, 172
STILL PICTURE ENTRY POINT 24
TRACK HEAD ENTRY POINT #3, 173
STILL PICTURE ENTRY POINT 25
STILL PICTURE ENTRY POINT 26
C_EPI#
(d)
CELL INFOR-MATION (CI) #1, 164
CELL INFOR-MATION (CI) #2, 165
CELL INFOR-MATION (CI) #3, 166
CELL INFOR-MATION (CI) #4, 167
CELL INFOR-MATION (CI) #5, 168
CELL INFOR-MATION (CI) #6, 169
AUTO-MATIC A-B
ANOTHER CHANCE A-B
ANOTHER CHANCE B-C
IN MY ROOM
FIRST LOVE A-B
AUTO-MATIC C-D
UD_PGCI
(e)
AUDIO OBJECT ENTRY #1
AUDIO OBJECT ENTRY #2
AUDIO OBJECT ENTRY #3
AUDIO OBJECT ENTRY #4
AUDIO OBJECT ENTRY #5
AOB#1
AOB#2
AOB#3
AOB#4
AOB#5
AUTOMATIC
FIRST LOVE
IN MY ROOM
ANOTHER CHANCE
AOBI
(f)
ORIGINAL CELL INFORMATION #1, 301
ORIGINAL CELL INFORMATION #2, 302
ORIGINAL CELL INFORMATION #3, 303
ORIGINAL CELL INFORMATION #4, 304
ORIGINAL CELL INFORMATION #5, 305
(g)
PROGRAM INFORMATION #1, 311 [AUTOMATIC]
PROGRAM INFORMATION #2, 312 [FIRST LOVE]
PROGRAM INFORMATION #3, 313 [IN MY ROOM]
PROGRAM INFORMATION #4, 314 [ANOTHER CHANCE]
ORG_PGCI
(h)
ORIGINAL PGC (ORG_PGCI) 320

FIG. 7

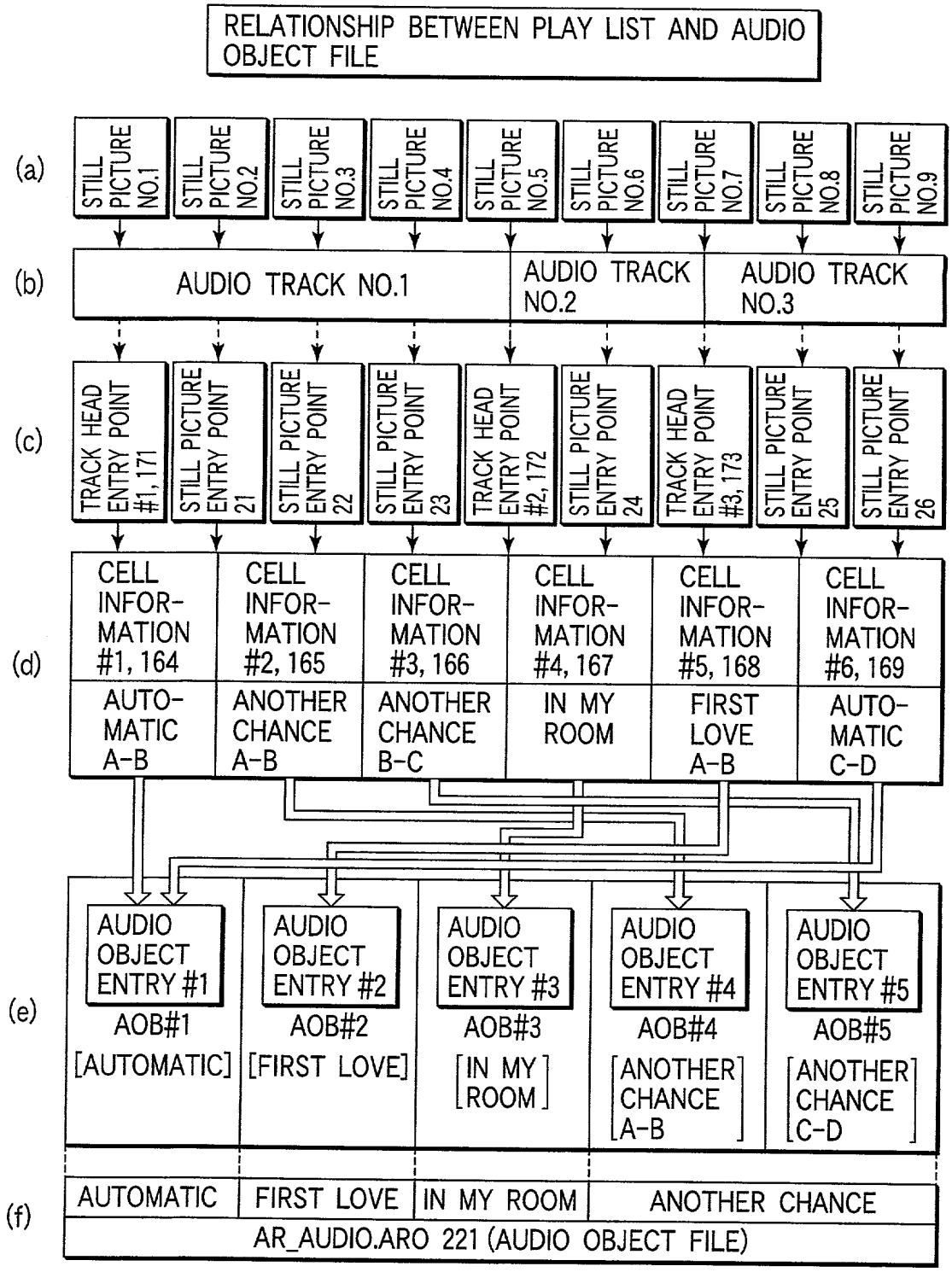

RELATIONSHIP BETWEEN PLAY LIST AND AUDIO OBJECT FILE
(a)
STILL PICTURE NO.1
STILL PICTURE NO.2
STILL PICTURE NO.3
STILL PICTURE NO.4
STILL PICTURE NO.5
STILL PICTURE NO.6
STILL PICTURE NO.7
STILL PICTURE NO.8
STILL PICTURE NO.9
(b)
AUDIO TRACK NO.1
AUDIO TRACK NO.2
AUDIO TRACK NO.3
(c)
TRACK HEAD ENTRY POINT #1, 171
STILL PICTURE ENTRY POINT 21
STILL PICTURE ENTRY POINT 22
STILL PICTURE ENTRY POINT 23
TRACK HEAD ENTRY POINT #2, 172
STILL PICTURE ENTRY POINT 24
TRACK HEAD ENTRY POINT #3, 173
STILL PICTURE ENTRY POINT 25
STILL PICTURE ENTRY POINT 26
(d)
CELL INFORMATION #1, 164
CELL INFORMATION #2, 165
CELL INFORMATION #3, 166
CELL INFORMATION #4, 167
CELL INFORMATION #5, 168
CELL INFORMATION #6, 169
AUTOMATIC A-B
ANOTHER CHANCE A-B
ANOTHER CHANCE B-C
IN MY ROOM
FIRST LOVE A-B
AUTOMATIC C-D
(e)
AUDIO OBJECT ENTRY #1
AOB#1
[AUTOMATIC]
AUDIO OBJECT ENTRY #2
AOB#2
[FIRST LOVE]
AUDIO OBJECT ENTRY #3
AOB#3
[IN MY ROOM]
AUDIO OBJECT ENTRY #4
AOB#4
[ANOTHER CHANCE A-B]
AUDIO OBJECT ENTRY #5
AOB#5
[ANOTHER CHANCE C-D]
(f)
AUTOMATIC
FIRST LOVE
IN MY ROOM
ANOTHER CHANCE
AR_AUDIO.ARO 221 (AUDIO OBJECT FILE)

FIG. 8

COMPARISON OF INFORMATION CONTENTS RECORDED IN TRACK HEAD ENTRY POINT (PROGRAM INFORMATION) AND STILL PICTURE ENTRY POINT

ENTRY POINT TYPE	INFORMATION CONTENTS IN VARIOUS KINDS OF ENTRY POINTS/PROGRAM INFORMATION
TRACK HEAD ENTRY POINTS 171 TO 173 OR PROGRAM INFORMATION 311 TO 314	◎ENTRY POINT TYPE INFORMATION (EP_TY) …IDENTIFICATION INFORMATION INDICATING TRACK HEAD ENTRY POINT OR STILL PICTURE ENTRY POINT ◎INFORMATION (EP_PTM & RA_DUR) OF DISPLAY RANGE OF REPRESENTATIVE AUDIO (ENTRY POINT FOR REPRESENTATIVE AUDIO) INDICATING CONTENTS OF CORRESPONDING AUDIO TRACK …DESIGNATED BY PLAYBACK START TIME AND PLAYBACK END TIME IN CORRESPONDING AUDIO TRACK ◎INFORMATION (REP_PICTI) FOR DESIGNATING THE SAVING LOCATION OF REPRESENTATIVE IMAGE THAT REPRESENTS CONTENTS OF CORRESPONDING AUDIO TRACK …DESIGNATED BY S_VOGI SEARCH POINTER NUMBER (STILL PICTURE VOB GROUP NUMBER) AND VOB ENTRY NUMBER THEREIN ◎INFORMATION FOR DESIGNATING THE SAVING LOCATION OF STILL PICTURE TO BE DISPLAYED FIRST UPON PLAYBACK OF CORRESPONDING AUDIO TRACK …DESIGNATED BY S_VOGI SEARCH POINTER NUMBER (STILL PICTURE VOB GROUP NUMBER) AND VOB ENTRY NUMBER THEREIN ◎TEXT INFORMATION (PRIMARY TEXT INFORMATION PRM_TXTI) UNIQUE TO CORRESPONDING AUDIO TRACK …TUNE NAME, PLAYER NAME/SINGER NAME, WRITER NAME, ETC. ◎ADDITIONAL COMMENT TEXT INFORMATION (IT_TXT_SRPN) (CENTRAL TEXT INFORMATION : ITEM TEXT 237, 238) ◎DISPLAY MODE OF STILL PICTURE IN CORRESPONDING AUDIO TRACK (DISPLAY MODE) …DISPLAY ORDER MODE/DISPLAY TIMING MODE ◎DISPLAY TIME RANGE INFORMATION (EP_PTM) OF CORRESPONDING STILL PICTURE ◎RELATIONSHIP BETWEEN CORRESPONDING STILL PICTURE CONTENTS AND ORIGINAL TRACK …WHETHER SAME STILL PICTURES AS THOSE IN ORIGINAL TRACK ARE DISPLAYED OR UNIQUE STILL PICTURES DIFFERENT FROM THOSE IN ORIGINAL TRACKS ARE DISPLAYED (NEWLY SET)

FIG. 9A

	◎ERASE INHIBITION/PROHIBITION FLAG …ERASE INHIBITION INFORMATION
STILL PICTURE ENTRY POINTS 21 TO 26	◎ENTRY POINT TYPE INFORMATION (EP_TY) …IDENTIFICATION INFORMATION INDICATING TRACK HEAD ENTRY POINT OR STILL PICTURE ENTRY POINT ◎INFORMATION (ASVOB_ENTN) FOR DESIGNATING THE SAVING LOCATION OF STILL PICTURE TO BE DISPLAYED …DESIGNATED BY S_VOGI SEARCH POINTER NUMBER (STILL PICTURE VOB GROUP NUMBER) AND VOB ENTRY NUMBER THEREIN ◎INFORMATION (EP_PTM) FOR DESIGNATING DISPLAY TIMING OF ABOVE STILL PICTURE …DESIGNATES DISPLAY TIME INFORMATION OF CORRESPONDING AUDIO OBJECT TO ADJUST DISPLAY TIMING BETWEEN TWO OBJECTS ◎DISPLAY TIME RANGE INFORMATION (MAX_DUR & MIN_DUR) OF CORRESPONDING STILL PICTURE

FIG. 9B

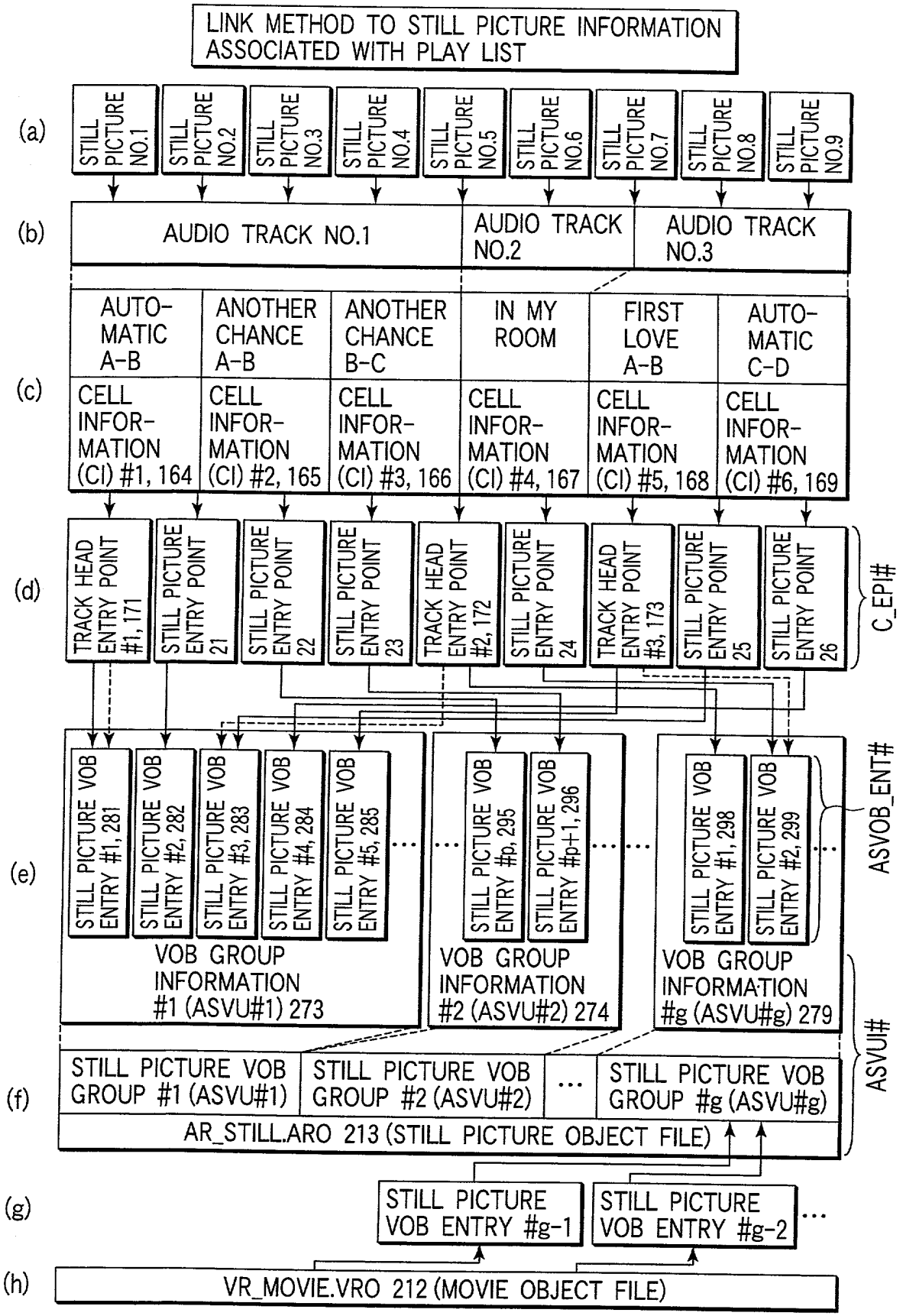

LINK METHOD TO STILL PICTURE INFORMATION ASSOCIATED WITH PLAY LIST
(a)
STILL PICTURE NO.1
STILL PICTURE NO.2
STILL PICTURE NO.3
STILL PICTURE NO.4
STILL PICTURE NO.5
STILL PICTURE NO.6
STILL PICTURE NO.7
STILL PICTURE NO.8
STILL PICTURE NO.9
(b)
AUDIO TRACK NO.1
AUDIO TRACK NO.2
AUDIO TRACK NO.3
(c)
AUTO-MATIC A-B
ANOTHER CHANCE A-B
ANOTHER CHANCE B-C
IN MY ROOM
FIRST LOVE A-B
AUTO-MATIC C-D
CELL INFOR-MATION (CI) #1, 164
CELL INFOR-MATION (CI) #2, 165
CELL INFOR-MATION (CI) #3, 166
CELL INFOR-MATION (CI) #4, 167
CELL INFOR-MATION (CI) #5, 168
CELL INFOR-MATION (CI) #6, 169
(d)
TRACK HEAD ENTRY POINT #1, 171
STILL PICTURE ENTRY POINT 21
STILL PICTURE ENTRY POINT 22
STILL PICTURE ENTRY POINT 23
TRACK HEAD ENTRY POINT #2, 172
STILL PICTURE ENTRY POINT 24
TRACK HEAD ENTRY POINT #3, 173
STILL PICTURE ENTRY POINT 25
STILL PICTURE ENTRY POINT 26
C_EPI#
(e)
STILL PICTURE VOB ENTRY #1, 281
STILL PICTURE VOB ENTRY #2, 282
STILL PICTURE VOB ENTRY #3, 283
STILL PICTURE VOB ENTRY #4, 284
STILL PICTURE VOB ENTRY #5, 285
STILL PICTURE VOB ENTRY #p, 295
STILL PICTURE VOB ENTRY #p+1, 296
STILL PICTURE VOB ENTRY #1, 298
STILL PICTURE VOB ENTRY #2, 299
ASVOB_ENT#
VOB GROUP INFORMATION #1 (ASVU#1) 273
VOB GROUP INFORMATION #2 (ASVU#2) 274
VOB GROUP INFORMATION #g (ASVU#g) 279
(f)
STILL PICTURE VOB GROUP #1 (ASVU#1)
STILL PICTURE VOB GROUP #2 (ASVU#2)
STILL PICTURE VOB GROUP #g (ASVU#g)
AR_STILL.ARO 213 (STILL PICTURE OBJECT FILE)
ASVU#
(g)
STILL PICTURE VOB ENTRY #g-1
STILL PICTURE VOB ENTRY #g-2
(h)
VR_MOVIE.VRO 212 (MOVIE OBJECT FILE)

FIG. 10

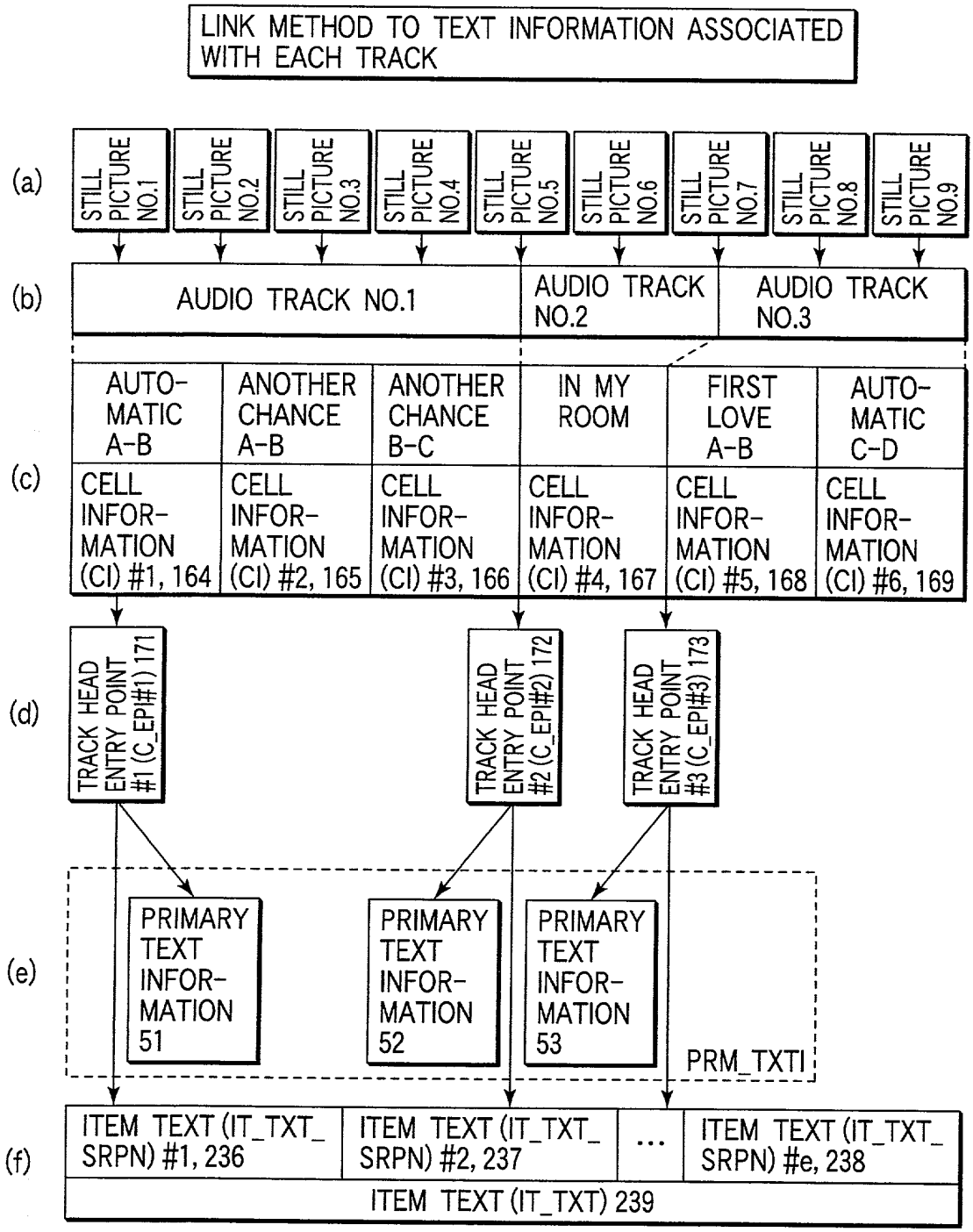

LINK METHOD TO TEXT INFORMATION ASSOCIATED WITH EACH TRACK
(a)
STILL PICTURE NO.1
STILL PICTURE NO.2
STILL PICTURE NO.3
STILL PICTURE NO.4
STILL PICTURE NO.5
STILL PICTURE NO.6
STILL PICTURE NO.7
STILL PICTURE NO.8
STILL PICTURE NO.9
(b)
AUDIO TRACK NO.1
AUDIO TRACK NO.2
AUDIO TRACK NO.3
AUTO-MATIC A-B
ANOTHER CHANCE A-B
ANOTHER CHANCE B-C
IN MY ROOM
FIRST LOVE A-B
AUTO-MATIC C-D
(c)
CELL INFOR-MATION (CI) #1, 164
CELL INFOR-MATION (CI) #2, 165
CELL INFOR-MATION (CI) #3, 166
CELL INFOR-MATION (CI) #4, 167
CELL INFOR-MATION (CI) #5, 168
CELL INFOR-MATION (CI) #6, 169
(d)
TRACK HEAD ENTRY POINT #1 (C_EPI#1) 171
TRACK HEAD ENTRY POINT #2 (C_EPI#2) 172
TRACK HEAD ENTRY POINT #3 (C_EPI#3) 173
(e)
PRIMARY TEXT INFOR-MATION 51
PRIMARY TEXT INFOR-MATION 52
PRIMARY TEXT INFOR-MATION 53
PRM_TXTI
(f)
ITEM TEXT (IT_TXT_SRPN) #1, 236
ITEM TEXT (IT_TXT_SRPN) #2, 237
...
ITEM TEXT (IT_TXT_SRPN) #e, 238
ITEM TEXT (IT_TXT) 239

FIG. 11

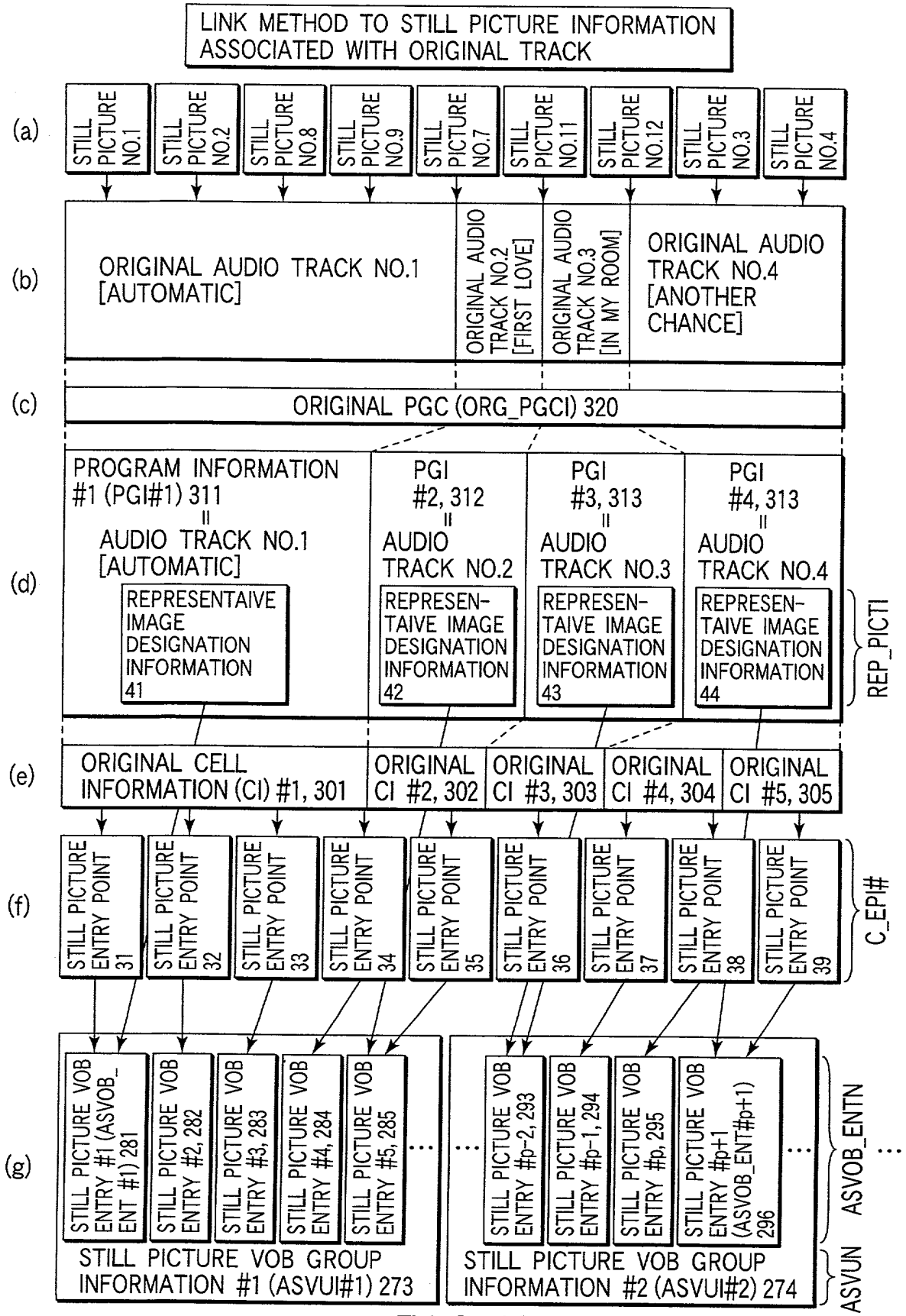

LINK METHOD TO STILL PICTURE INFORMATION ASSOCIATED WITH ORIGINAL TRACK
(a)
STILL PICTURE NO.1
STILL PICTURE NO.2
STILL PICTURE NO.8
STILL PICTURE NO.9
STILL PICTURE NO.7
STILL PICTURE NO.11
STILL PICTURE NO.12
STILL PICTURE NO.3
STILL PICTURE NO.4
(b)
ORIGINAL AUDIO TRACK NO.1 [AUTOMATIC]
ORIGINAL AUDIO TRACK NO.2 [FIRST LOVE]
ORIGINAL AUDIO TRACK NO.3 [IN MY ROOM]
ORIGINAL AUDIO TRACK NO.4 [ANOTHER CHANCE]
(c)
ORIGINAL PGC (ORG_PGCI) 320
(d)
PROGRAM INFORMATION #1 (PGI#1) 311
=
AUDIO TRACK NO.1 [AUTOMATIC]
REPRESENTAIVE IMAGE DESIGNATION INFORMATION 41
PGI #2, 312
=
AUDIO TRACK NO.2
REPRESEN-TAIVE IMAGE DESIGNATION INFORMATION 42
PGI #3, 313
=
AUDIO TRACK NO.3
REPRESEN-TAIVE IMAGE DESIGNATION INFORMATION 43
PGI #4, 313
=
AUDIO TRACK NO.4
REPRESEN-TAIVE IMAGE DESIGNATION INFORMATION 44
REP_PICTI
(e)
ORIGINAL CELL INFORMATION (CI) #1, 301
ORIGINAL CI #2, 302
ORIGINAL CI #3, 303
ORIGINAL CI #4, 304
ORIGINAL CI #5, 305
(f)
STILL PICTURE ENTRY POINT 31
STILL PICTURE ENTRY POINT 32
STILL PICTURE ENTRY POINT 33
STILL PICTURE ENTRY POINT 34
STILL PICTURE ENTRY POINT 35
STILL PICTURE ENTRY POINT 36
STILL PICTURE ENTRY POINT 37
STILL PICTURE ENTRY POINT 38
STILL PICTURE ENTRY POINT 39
C_EPI#
(g)
STILL PICTURE VOB ENTRY #1 (ASVOB_ENT #1) 281
STILL PICTURE VOB ENTRY #2, 282
STILL PICTURE VOB ENTRY #3, 283
STILL PICTURE VOB ENTRY #4, 284
STILL PICTURE VOB ENTRY #5, 285
STILL PICTURE VOB GROUP INFORMATION #1 (ASVUI#1) 273
STILL PICTURE VOB ENTRY #p-2, 293
STILL PICTURE VOB ENTRY #p-1, 294
STILL PICTURE VOB ENTRY #p, 295
STILL PICTURE VOB ENTRY #p+1 (ASVOB_ENT#p+1) 296
STILL PICTURE VOB GROUP INFORMATION #2 (ASVUI#2) 274
ASVOB_ENTN
ASVUN

FIG. 12

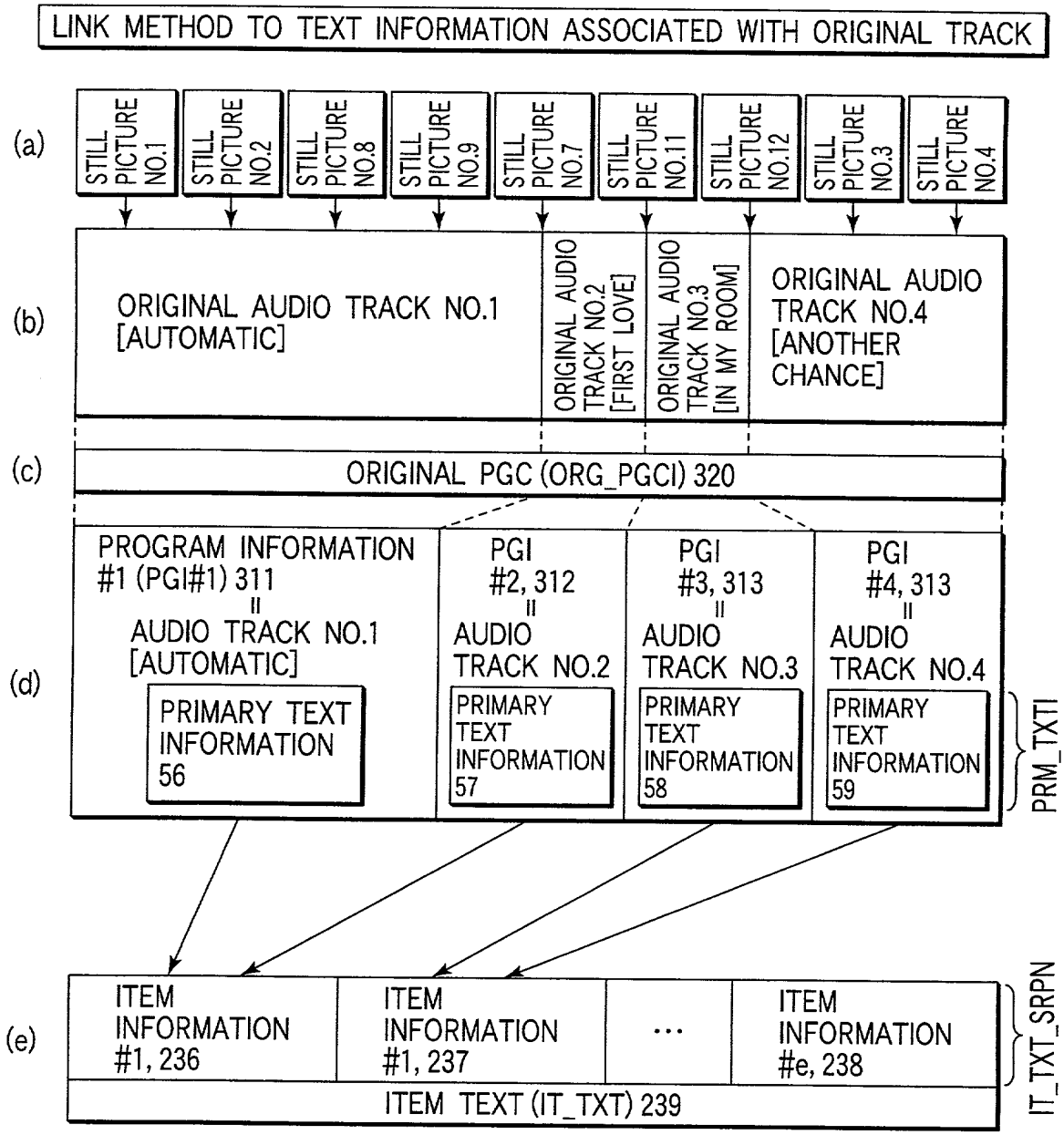

LINK METHOD TO TEXT INFORMATION ASSOCIATED WITH ORIGINAL TRACK
(a)
STILL PICTURE NO.1
STILL PICTURE NO.2
STILL PICTURE NO.8
STILL PICTURE NO.9
STILL PICTURE NO.7
STILL PICTURE NO.11
STILL PICTURE NO.12
STILL PICTURE NO.3
STILL PICTURE NO.4
(b)
ORIGINAL AUDIO TRACK NO.1 [AUTOMATIC]
ORIGINAL AUDIO TRACK NO.2 [FIRST LOVE]
ORIGINAL AUDIO TRACK NO.3 [IN MY ROOM]
ORIGINAL AUDIO TRACK NO.4 [ANOTHER CHANCE]
(c)
ORIGINAL PGC (ORG_PGCI) 320
(d)
PROGRAM INFORMATION #1 (PGI#1) 311
AUDIO TRACK NO.1 [AUTOMATIC]
PRIMARY TEXT INFORMATION 56
PGI #2, 312
AUDIO TRACK NO.2
PRIMARY TEXT INFORMATION 57
PGI #3, 313
AUDIO TRACK NO.3
PRIMARY TEXT INFORMATION 58
PGI #4, 313
AUDIO TRACK NO.4
PRIMARY TEXT INFORMATION 59
PRM_TXTI
(e)
ITEM INFORMATION #1, 236
ITEM INFORMATION #1, 237
...
ITEM INFORMATION #e, 238
IT_TXT_SRPN
ITEM TEXT (IT_TXT) 239

FIG. 13

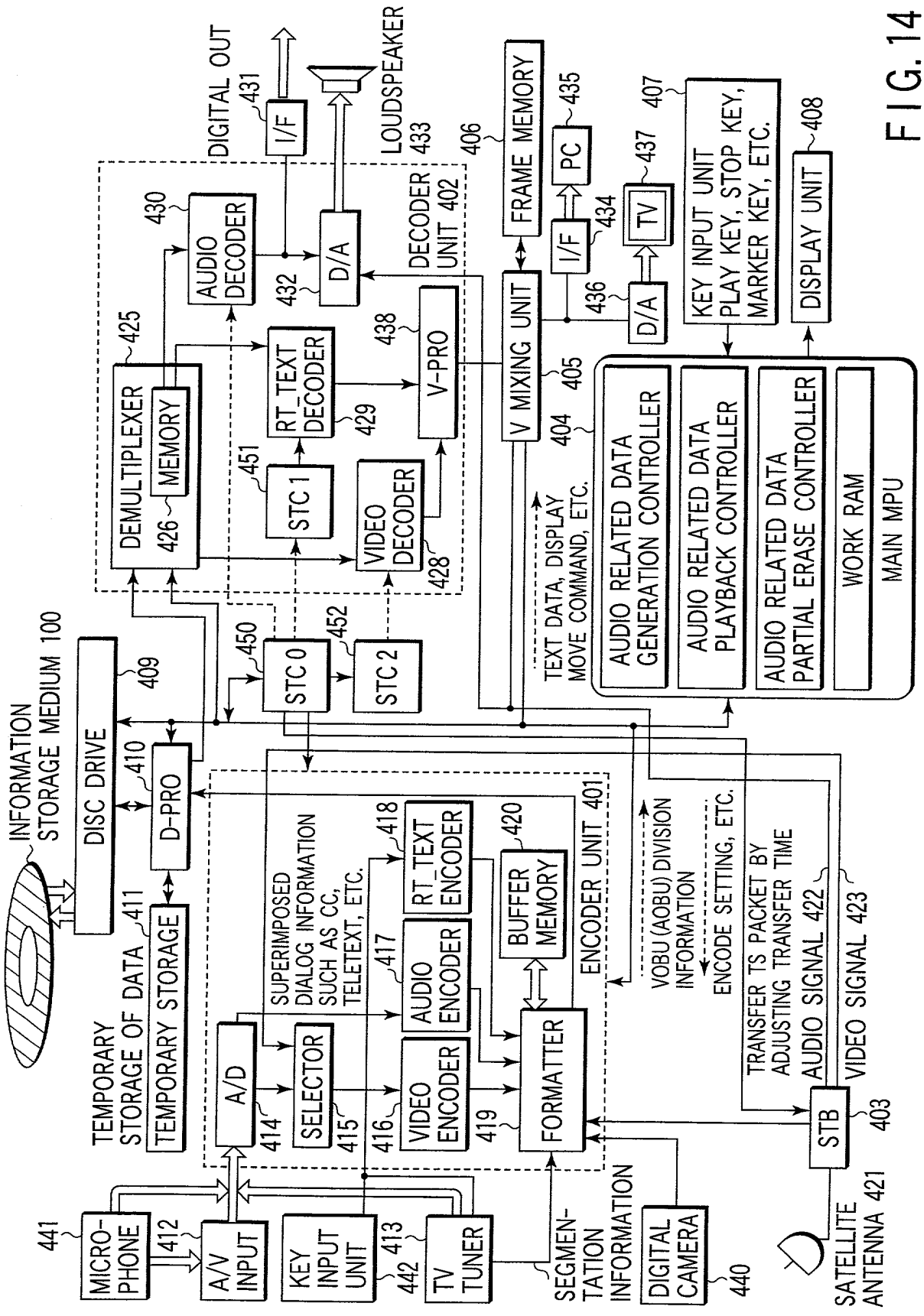

INFORMATION STORAGE MEDIUM 100
DISC DRIVE
409
D-PRO
410
TEMPORARY STORAGE
411
TEMPORARY STORAGE OF DATA
DEMULTIPLEXER
425
MEMORY
426
AUDIO DECODER
430
DIGITAL OUT
I/F
431
LOUDSPEAKER
D/A
432
DECODER UNIT 402
433
RT_TEXT DECODER
429
V-PRO
438
STC 1
451
VIDEO DECODER
428
STC 0
450
STC 2
452
FRAME MEMORY
406
V MIXING UNIT
405
I/F
434
PC
435
D/A
436
TV
437
407
KEY INPUT UNIT
PLAY KEY, STOP KEY, MARKER KEY, ETC.
DISPLAY UNIT
408
TEXT DATA, DISPLAY MOVE COMMAND, ETC.
404
AUDIO RELATED DATA GENERATION CONTROLLER
AUDIO RELATED DATA PLAYBACK CONTROLLER
AUDIO RELATED DATA PARTIAL ERASE CONTROLLER
WORK RAM
MAIN MPU
ENCODER UNIT 401
SUPERIMPOSED DIALOG INFORMATION SUCH AS CC, TELETEXT, ETC.
A/D
414
SELECTOR
415
VIDEO ENCODER
416
AUDIO ENCODER
417
RT_TEXT ENCODER
418
FORMATTER
419
BUFFER MEMORY
420
VOBU (AOBU) DIVISION INFORMATION
ENCODE SETTING, ETC.
TRANSFER TS PACKET BY ADJUSTING TRANSFER TIME
AUDIO SIGNAL 422
VIDEO SIGNAL 423
STB
403
SATELLITE ANTENNA 421
MICRO-PHONE
441
A/V INPUT
412
KEY INPUT UNIT
442
TV TUNER
413
SEGMEN-TATION INFORMATION
DIGITAL CAMERA
440

FIG. 14

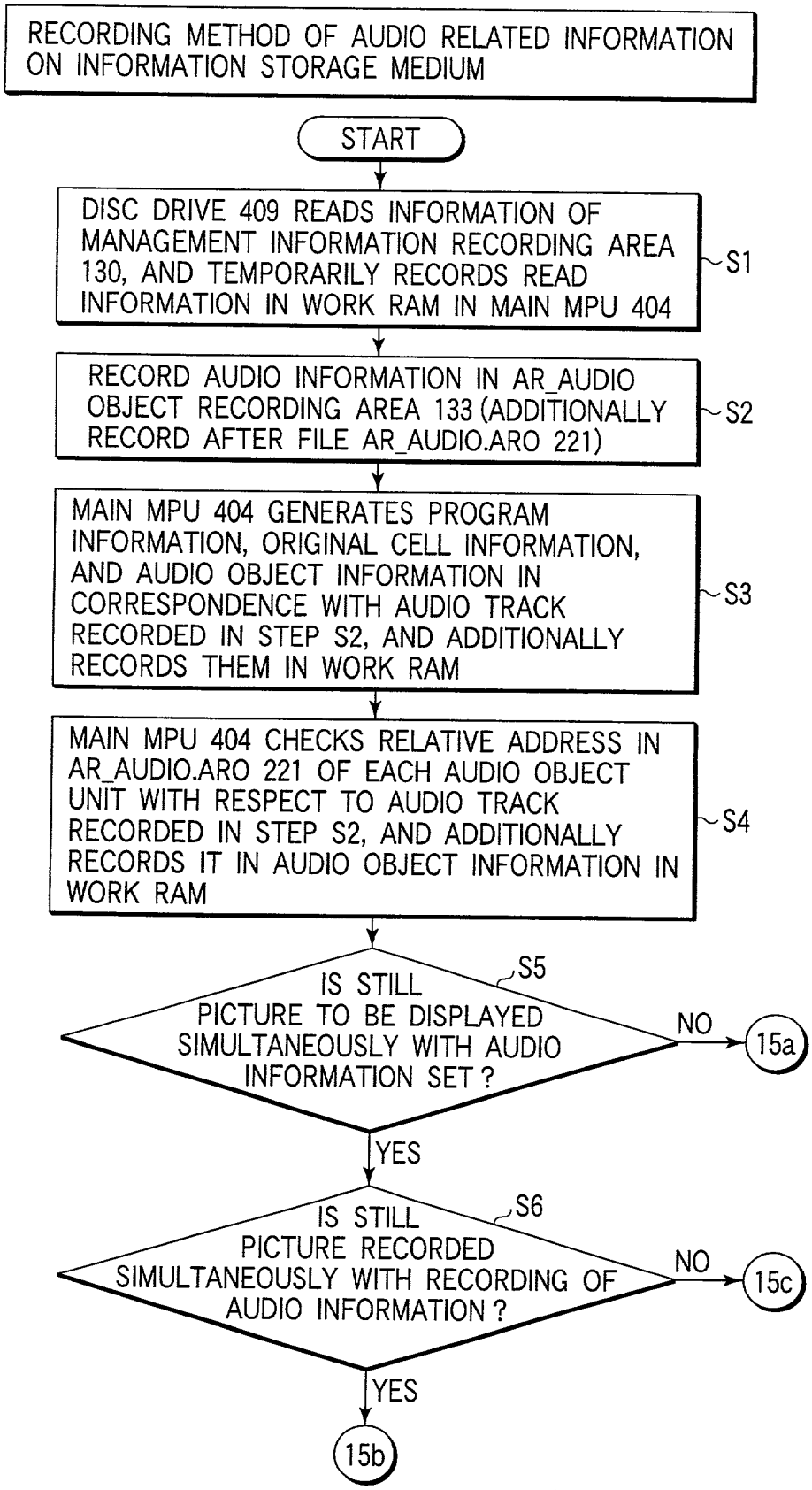

RECORDING METHOD OF AUDIO RELATED INFORMATION ON INFORMATION STORAGE MEDIUM
START
DISC DRIVE 409 READS INFORMATION OF MANAGEMENT INFORMATION RECORDING AREA 130, AND TEMPORARILY RECORDS READ INFORMATION IN WORK RAM IN MAIN MPU 404
S1
RECORD AUDIO INFORMATION IN AR_AUDIO OBJECT RECORDING AREA 133 (ADDITIONALLY RECORD AFTER FILE AR_AUDIO.ARO 221)
S2
MAIN MPU 404 GENERATES PROGRAM INFORMATION, ORIGINAL CELL INFORMATION, AND AUDIO OBJECT INFORMATION IN CORRESPONDENCE WITH AUDIO TRACK RECORDED IN STEP S2, AND ADDITIONALLY RECORDS THEM IN WORK RAM
S3
MAIN MPU 404 CHECKS RELATIVE ADDRESS IN AR_AUDIO.ARO 221 OF EACH AUDIO OBJECT UNIT WITH RESPECT TO AUDIO TRACK RECORDED IN STEP S2, AND ADDITIONALLY RECORDS IT IN AUDIO OBJECT INFORMATION IN WORK RAM
S4
S5
IS STILL PICTURE TO BE DISPLAYED SIMULTANEOUSLY WITH AUDIO INFORMATION SET ?
NO
15a
YES
S6
IS STILL PICTURE RECORDED SIMULTANEOUSLY WITH RECORDING OF AUDIO INFORMATION ?
NO
15c
YES
15b

FIG. 15

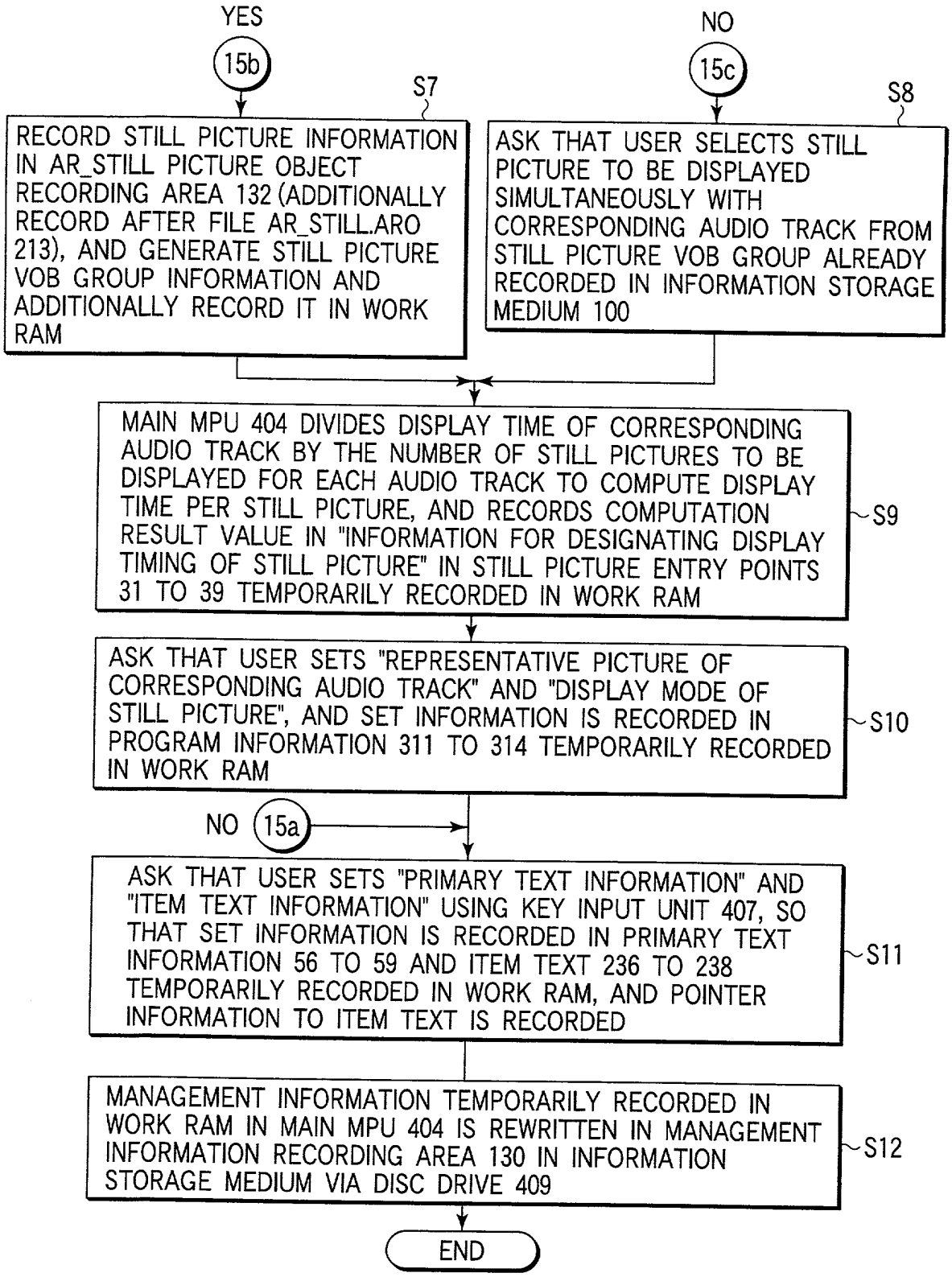

YES
15b
S7
RECORD STILL PICTURE INFORMATION IN AR_STILL PICTURE OBJECT RECORDING AREA 132 (ADDITIONALLY RECORD AFTER FILE AR_STILL.ARO 213), AND GENERATE STILL PICTURE VOB GROUP INFORMATION AND ADDITIONALLY RECORD IT IN WORK RAM
NO
15c
S8
ASK THAT USER SELECTS STILL PICTURE TO BE DISPLAYED SIMULTANEOUSLY WITH CORRESPONDING AUDIO TRACK FROM STILL PICTURE VOB GROUP ALREADY RECORDED IN INFORMATION STORAGE MEDIUM 100
MAIN MPU 404 DIVIDES DISPLAY TIME OF CORRESPONDING AUDIO TRACK BY THE NUMBER OF STILL PICTURES TO BE DISPLAYED FOR EACH AUDIO TRACK TO COMPUTE DISPLAY TIME PER STILL PICTURE, AND RECORDS COMPUTATION RESULT VALUE IN "INFORMATION FOR DESIGNATING DISPLAY TIMING OF STILL PICTURE" IN STILL PICTURE ENTRY POINTS 31 TO 39 TEMPORARILY RECORDED IN WORK RAM
S9
ASK THAT USER SETS "REPRESENTATIVE PICTURE OF CORRESPONDING AUDIO TRACK" AND "DISPLAY MODE OF STILL PICTURE", AND SET INFORMATION IS RECORDED IN PROGRAM INFORMATION 311 TO 314 TEMPORARILY RECORDED IN WORK RAM
S10
NO
15a
ASK THAT USER SETS "PRIMARY TEXT INFORMATION" AND "ITEM TEXT INFORMATION" USING KEY INPUT UNIT 407, SO THAT SET INFORMATION IS RECORDED IN PRIMARY TEXT INFORMATION 56 TO 59 AND ITEM TEXT 236 TO 238 TEMPORARILY RECORDED IN WORK RAM, AND POINTER INFORMATION TO ITEM TEXT IS RECORDED
S11
MANAGEMENT INFORMATION TEMPORARILY RECORDED IN WORK RAM IN MAIN MPU 404 IS REWRITTEN IN MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM VIA DISC DRIVE 409
S12
END

FIG. 16

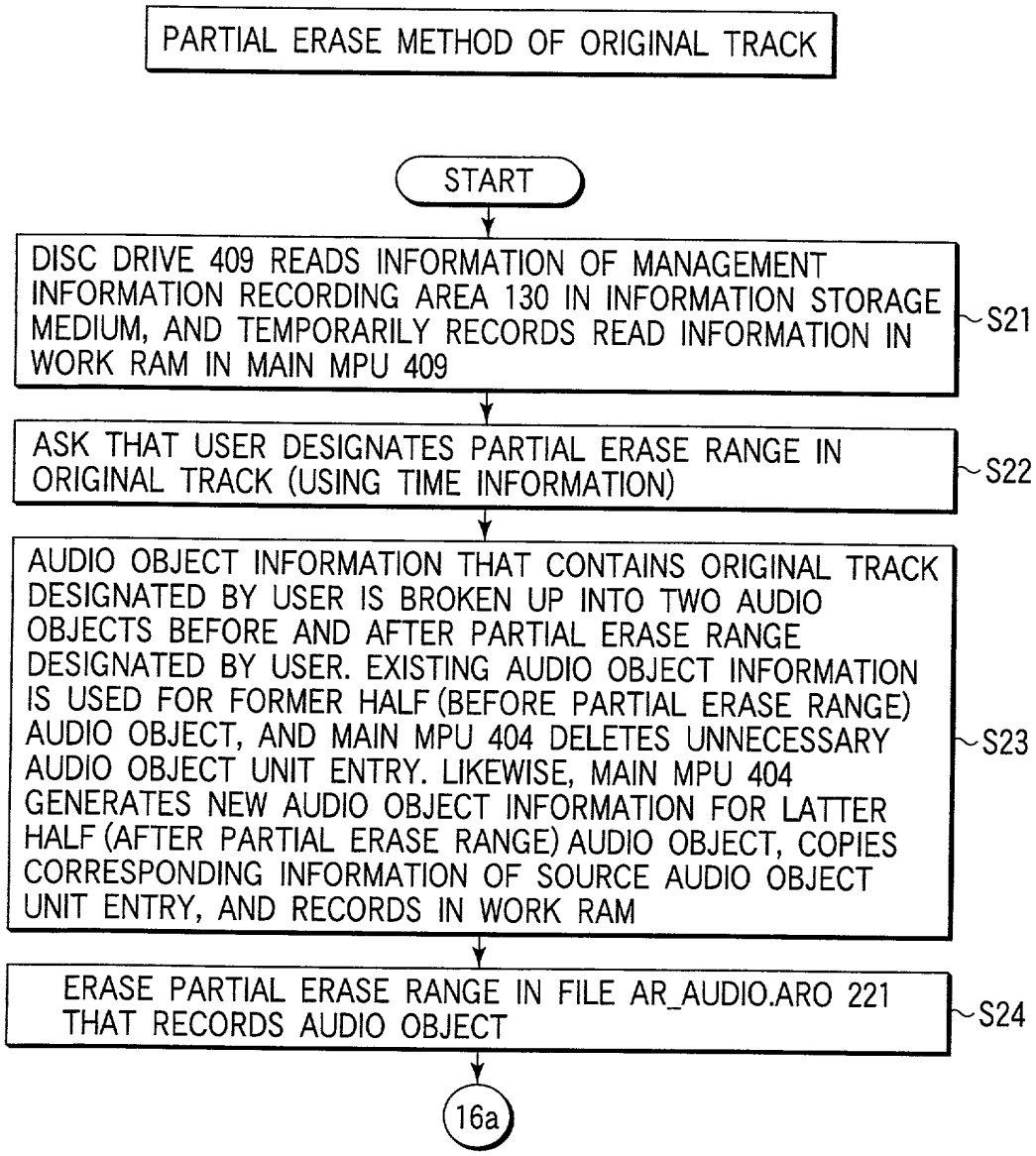

PARTIAL ERASE METHOD OF ORIGINAL TRACK
START
DISC DRIVE 409 READS INFORMATION OF MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM, AND TEMPORARILY RECORDS READ INFORMATION IN WORK RAM IN MAIN MPU 409
S21
ASK THAT USER DESIGNATES PARTIAL ERASE RANGE IN ORIGINAL TRACK (USING TIME INFORMATION)
S22
AUDIO OBJECT INFORMATION THAT CONTAINS ORIGINAL TRACK DESIGNATED BY USER IS BROKEN UP INTO TWO AUDIO OBJECTS BEFORE AND AFTER PARTIAL ERASE RANGE DESIGNATED BY USER. EXISTING AUDIO OBJECT INFORMATION IS USED FOR FORMER HALF (BEFORE PARTIAL ERASE RANGE) AUDIO OBJECT, AND MAIN MPU 404 DELETES UNNECESSARY AUDIO OBJECT UNIT ENTRY. LIKEWISE, MAIN MPU 404 GENERATES NEW AUDIO OBJECT INFORMATION FOR LATTER HALF (AFTER PARTIAL ERASE RANGE) AUDIO OBJECT, COPIES CORRESPONDING INFORMATION OF SOURCE AUDIO OBJECT UNIT ENTRY, AND RECORDS IN WORK RAM
S23
ERASE PARTIAL ERASE RANGE IN FILE AR_AUDIO.ARO 221 THAT RECORDS AUDIO OBJECT
S24
16a

FIG. 17

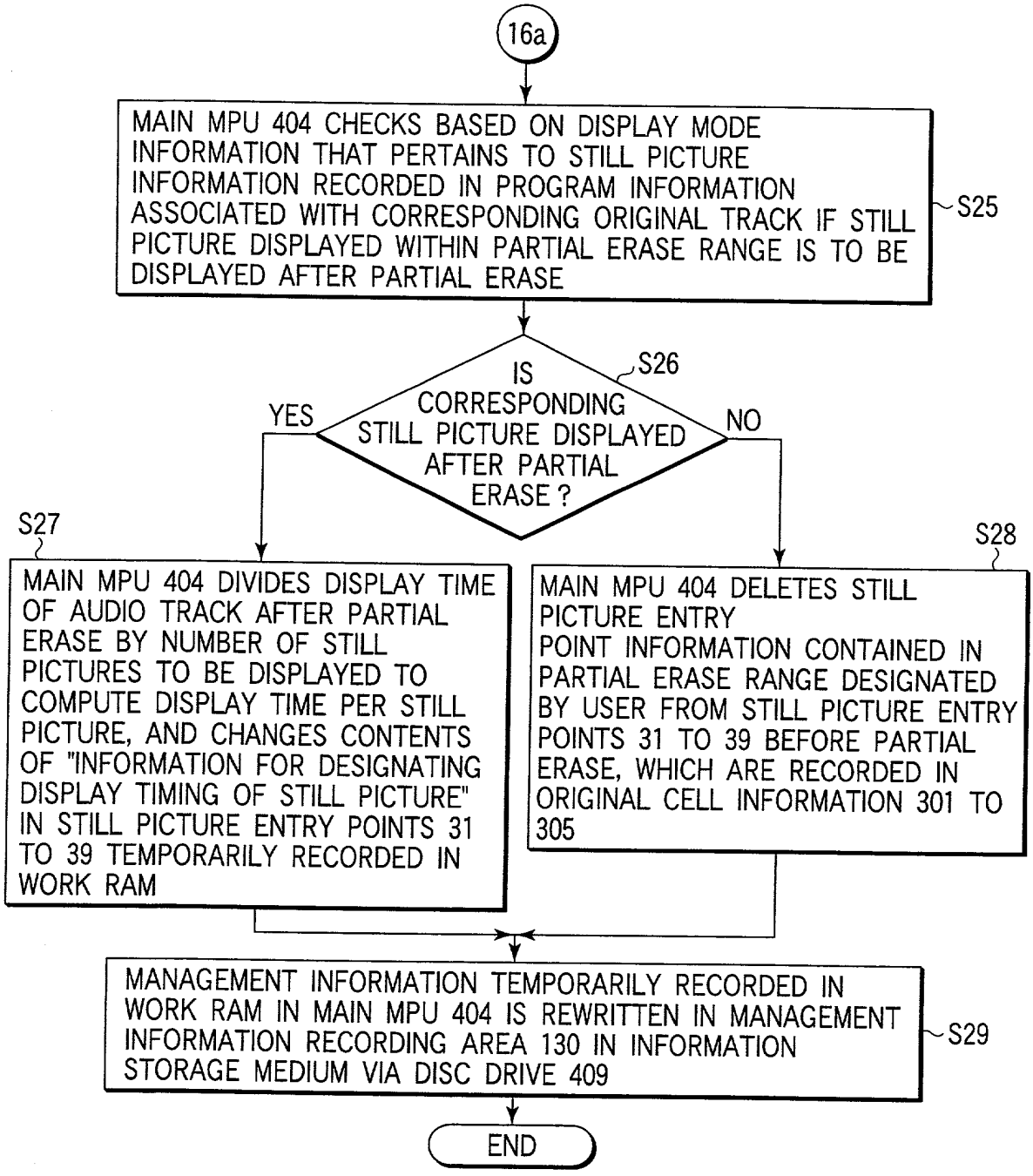

16a
MAIN MPU 404 CHECKS BASED ON DISPLAY MODE INFORMATION THAT PERTAINS TO STILL PICTURE INFORMATION RECORDED IN PROGRAM INFORMATION ASSOCIATED WITH CORRESPONDING ORIGINAL TRACK IF STILL PICTURE DISPLAYED WITHIN PARTIAL ERASE RANGE IS TO BE DISPLAYED AFTER PARTIAL ERASE
S25
IS CORRESPONDING STILL PICTURE DISPLAYED AFTER PARTIAL ERASE ?
S26
YES
NO
S27
MAIN MPU 404 DIVIDES DISPLAY TIME OF AUDIO TRACK AFTER PARTIAL ERASE BY NUMBER OF STILL PICTURES TO BE DISPLAYED TO COMPUTE DISPLAY TIME PER STILL PICTURE, AND CHANGES CONTENTS OF "INFORMATION FOR DESIGNATING DISPLAY TIMING OF STILL PICTURE" IN STILL PICTURE ENTRY POINTS 31 TO 39 TEMPORARILY RECORDED IN WORK RAM
S28
MAIN MPU 404 DELETES STILL PICTURE ENTRY POINT INFORMATION CONTAINED IN PARTIAL ERASE RANGE DESIGNATED BY USER FROM STILL PICTURE ENTRY POINTS 31 TO 39 BEFORE PARTIAL ERASE, WHICH ARE RECORDED IN ORIGINAL CELL INFORMATION 301 TO 305
MANAGEMENT INFORMATION TEMPORARILY RECORDED IN WORK RAM IN MAIN MPU 404 IS REWRITTEN IN MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM VIA DISC DRIVE 409
S29
END

FIG. 18

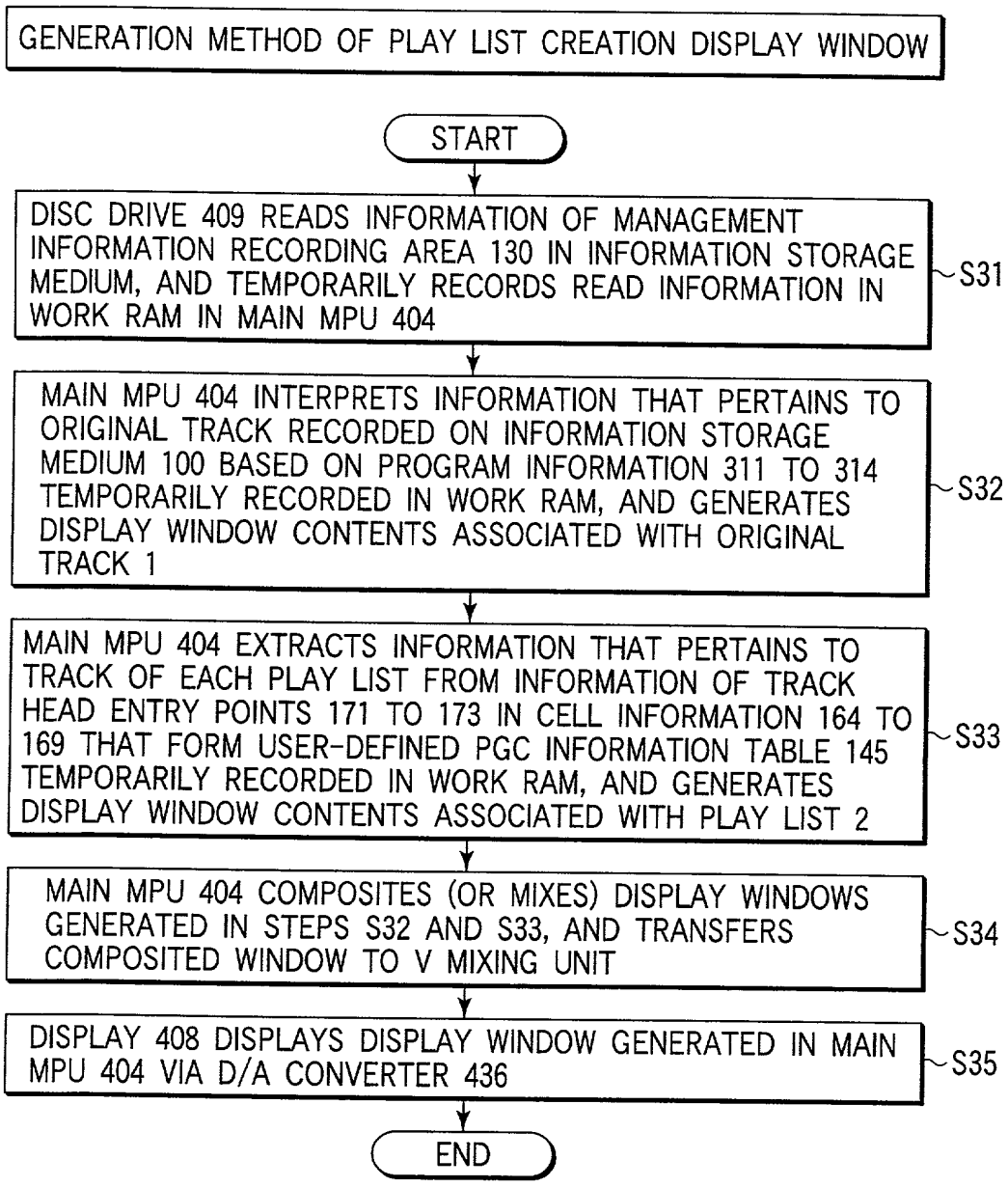

GENERATION METHOD OF PLAY LIST CREATION DISPLAY WINDOW
START
DISC DRIVE 409 READS INFORMATION OF MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM, AND TEMPORARILY RECORDS READ INFORMATION IN WORK RAM IN MAIN MPU 404
S31
MAIN MPU 404 INTERPRETS INFORMATION THAT PERTAINS TO ORIGINAL TRACK RECORDED ON INFORMATION STORAGE MEDIUM 100 BASED ON PROGRAM INFORMATION 311 TO 314 TEMPORARILY RECORDED IN WORK RAM, AND GENERATES DISPLAY WINDOW CONTENTS ASSOCIATED WITH ORIGINAL TRACK 1
S32
MAIN MPU 404 EXTRACTS INFORMATION THAT PERTAINS TO TRACK OF EACH PLAY LIST FROM INFORMATION OF TRACK HEAD ENTRY POINTS 171 TO 173 IN CELL INFORMATION 164 TO 169 THAT FORM USER-DEFINED PGC INFORMATION TABLE 145 TEMPORARILY RECORDED IN WORK RAM, AND GENERATES DISPLAY WINDOW CONTENTS ASSOCIATED WITH PLAY LIST 2
S33
MAIN MPU 404 COMPOSITES (OR MIXES) DISPLAY WINDOWS GENERATED IN STEPS S32 AND S33, AND TRANSFERS COMPOSITED WINDOW TO V MIXING UNIT
S34
DISPLAY 408 DISPLAYS DISPLAY WINDOW GENERATED IN MAIN MPU 404 VIA D/A CONVERTER 436
S35
END

FIG. 19

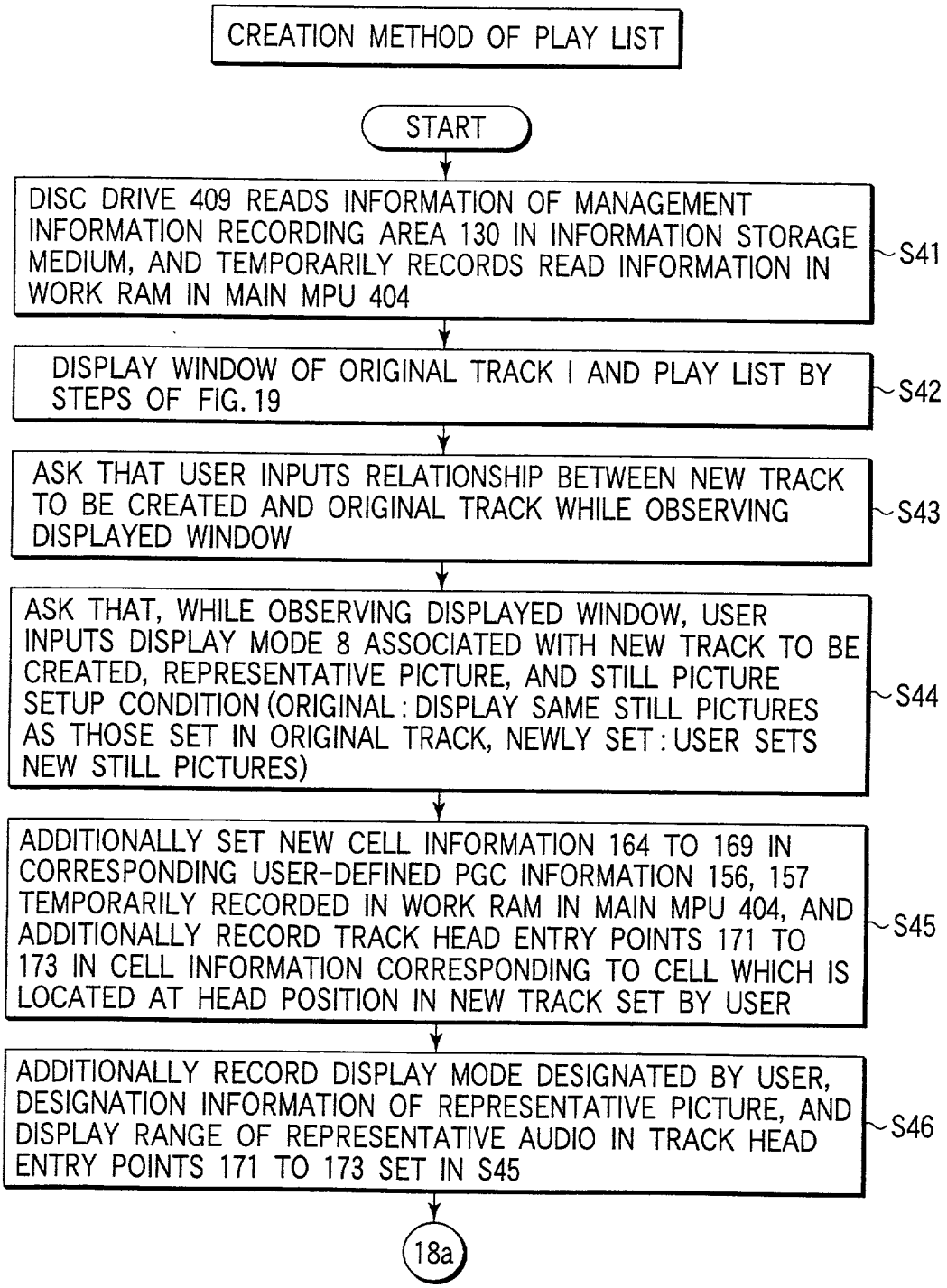

CREATION METHOD OF PLAY LIST
START
DISC DRIVE 409 READS INFORMATION OF MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM, AND TEMPORARILY RECORDS READ INFORMATION IN WORK RAM IN MAIN MPU 404
S41
DISPLAY WINDOW OF ORIGINAL TRACK I AND PLAY LIST BY STEPS OF FIG. 19
S42
ASK THAT USER INPUTS RELATIONSHIP BETWEEN NEW TRACK TO BE CREATED AND ORIGINAL TRACK WHILE OBSERVING DISPLAYED WINDOW
S43
ASK THAT, WHILE OBSERVING DISPLAYED WINDOW, USER INPUTS DISPLAY MODE 8 ASSOCIATED WITH NEW TRACK TO BE CREATED, REPRESENTATIVE PICTURE, AND STILL PICTURE SETUP CONDITION (ORIGINAL : DISPLAY SAME STILL PICTURES AS THOSE SET IN ORIGINAL TRACK, NEWLY SET : USER SETS NEW STILL PICTURES)
S44
ADDITIONALLY SET NEW CELL INFORMATION 164 TO 169 IN CORRESPONDING USER-DEFINED PGC INFORMATION 156, 157 TEMPORARILY RECORDED IN WORK RAM IN MAIN MPU 404, AND ADDITIONALLY RECORD TRACK HEAD ENTRY POINTS 171 TO 173 IN CELL INFORMATION CORRESPONDING TO CELL WHICH IS LOCATED AT HEAD POSITION IN NEW TRACK SET BY USER
S45
ADDITIONALLY RECORD DISPLAY MODE DESIGNATED BY USER, DESIGNATION INFORMATION OF REPRESENTATIVE PICTURE, AND DISPLAY RANGE OF REPRESENTATIVE AUDIO IN TRACK HEAD ENTRY POINTS 171 TO 173 SET IN S45
S46
18a

FIG. 20

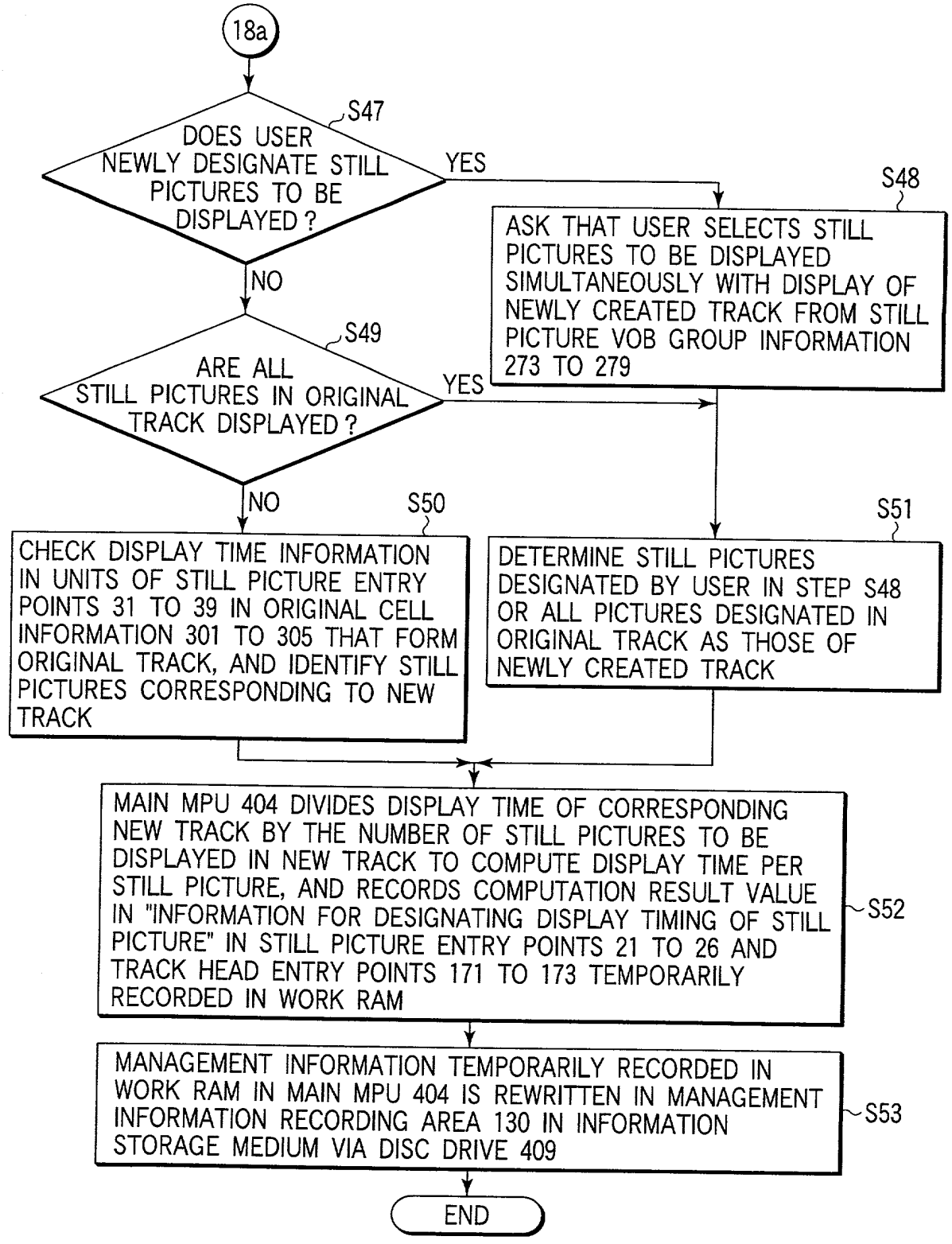

18a
S47
DOES USER NEWLY DESIGNATE STILL PICTURES TO BE DISPLAYED ?
YES
S48
ASK THAT USER SELECTS STILL PICTURES TO BE DISPLAYED SIMULTANEOUSLY WITH DISPLAY OF NEWLY CREATED TRACK FROM STILL PICTURE VOB GROUP INFORMATION 273 TO 279
NO
S49
ARE ALL STILL PICTURES IN ORIGINAL TRACK DISPLAYED ?
YES
NO
S50
CHECK DISPLAY TIME INFORMATION IN UNITS OF STILL PICTURE ENTRY POINTS 31 TO 39 IN ORIGINAL CELL INFORMATION 301 TO 305 THAT FORM ORIGINAL TRACK, AND IDENTIFY STILL PICTURES CORRESPONDING TO NEW TRACK
S51
DETERMINE STILL PICTURES DESIGNATED BY USER IN STEP S48 OR ALL PICTURES DESIGNATED IN ORIGINAL TRACK AS THOSE OF NEWLY CREATED TRACK
MAIN MPU 404 DIVIDES DISPLAY TIME OF CORRESPONDING NEW TRACK BY THE NUMBER OF STILL PICTURES TO BE DISPLAYED IN NEW TRACK TO COMPUTE DISPLAY TIME PER STILL PICTURE, AND RECORDS COMPUTATION RESULT VALUE IN "INFORMATION FOR DESIGNATING DISPLAY TIMING OF STILL PICTURE" IN STILL PICTURE ENTRY POINTS 21 TO 26 AND TRACK HEAD ENTRY POINTS 171 TO 173 TEMPORARILY RECORDED IN WORK RAM
S52
MANAGEMENT INFORMATION TEMPORARILY RECORDED IN WORK RAM IN MAIN MPU 404 IS REWRITTEN IN MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM VIA DISC DRIVE 409
S53
END

FIG. 21

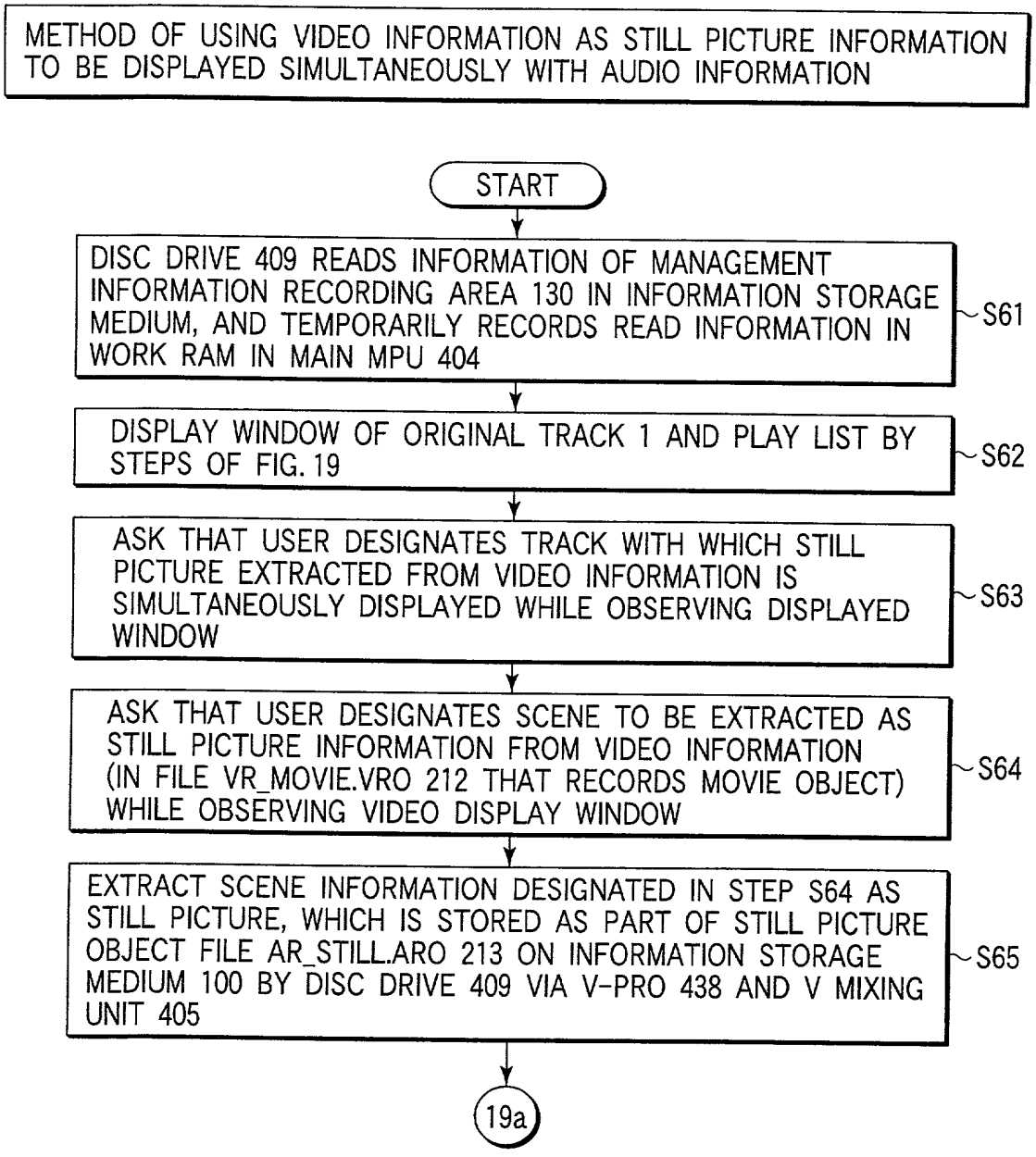

METHOD OF USING VIDEO INFORMATION AS STILL PICTURE INFORMATION TO BE DISPLAYED SIMULTANEOUSLY WITH AUDIO INFORMATION
START
DISC DRIVE 409 READS INFORMATION OF MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM, AND TEMPORARILY RECORDS READ INFORMATION IN WORK RAM IN MAIN MPU 404
S61
DISPLAY WINDOW OF ORIGINAL TRACK 1 AND PLAY LIST BY STEPS OF FIG. 19
S62
ASK THAT USER DESIGNATES TRACK WITH WHICH STILL PICTURE EXTRACTED FROM VIDEO INFORMATION IS SIMULTANEOUSLY DISPLAYED WHILE OBSERVING DISPLAYED WINDOW
S63
ASK THAT USER DESIGNATES SCENE TO BE EXTRACTED AS STILL PICTURE INFORMATION FROM VIDEO INFORMATION (IN FILE VR_MOVIE.VRO 212 THAT RECORDS MOVIE OBJECT) WHILE OBSERVING VIDEO DISPLAY WINDOW
S64
EXTRACT SCENE INFORMATION DESIGNATED IN STEP S64 AS STILL PICTURE, WHICH IS STORED AS PART OF STILL PICTURE OBJECT FILE AR_STILL.ARO 213 ON INFORMATION STORAGE MEDIUM 100 BY DISC DRIVE 409 VIA V-PRO 438 AND V MIXING UNIT 405
S65
19a

FIG. 22

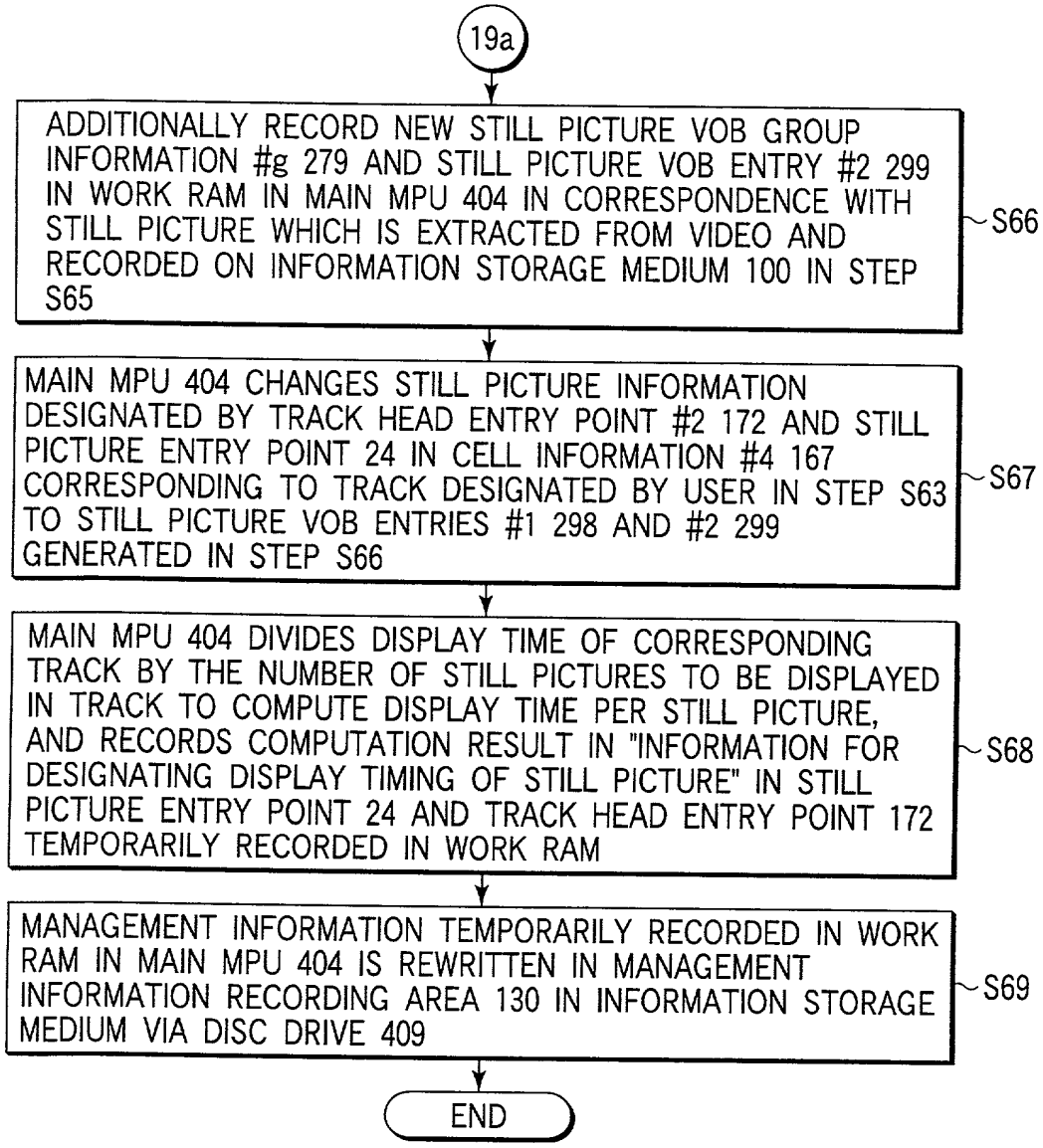

19a
ADDITIONALLY RECORD NEW STILL PICTURE VOB GROUP INFORMATION #g 279 AND STILL PICTURE VOB ENTRY #2 299 IN WORK RAM IN MAIN MPU 404 IN CORRESPONDENCE WITH STILL PICTURE WHICH IS EXTRACTED FROM VIDEO AND RECORDED ON INFORMATION STORAGE MEDIUM 100 IN STEP S65
S66
MAIN MPU 404 CHANGES STILL PICTURE INFORMATION DESIGNATED BY TRACK HEAD ENTRY POINT #2 172 AND STILL PICTURE ENTRY POINT 24 IN CELL INFORMATION #4 167 CORRESPONDING TO TRACK DESIGNATED BY USER IN STEP S63 TO STILL PICTURE VOB ENTRIES #1 298 AND #2 299 GENERATED IN STEP S66
S67
MAIN MPU 404 DIVIDES DISPLAY TIME OF CORRESPONDING TRACK BY THE NUMBER OF STILL PICTURES TO BE DISPLAYED IN TRACK TO COMPUTE DISPLAY TIME PER STILL PICTURE, AND RECORDS COMPUTATION RESULT IN "INFORMATION FOR DESIGNATING DISPLAY TIMING OF STILL PICTURE" IN STILL PICTURE ENTRY POINT 24 AND TRACK HEAD ENTRY POINT 172 TEMPORARILY RECORDED IN WORK RAM
S68
MANAGEMENT INFORMATION TEMPORARILY RECORDED IN WORK RAM IN MAIN MPU 404 IS REWRITTEN IN MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM VIA DISC DRIVE 409
S69
END

FIG. 23

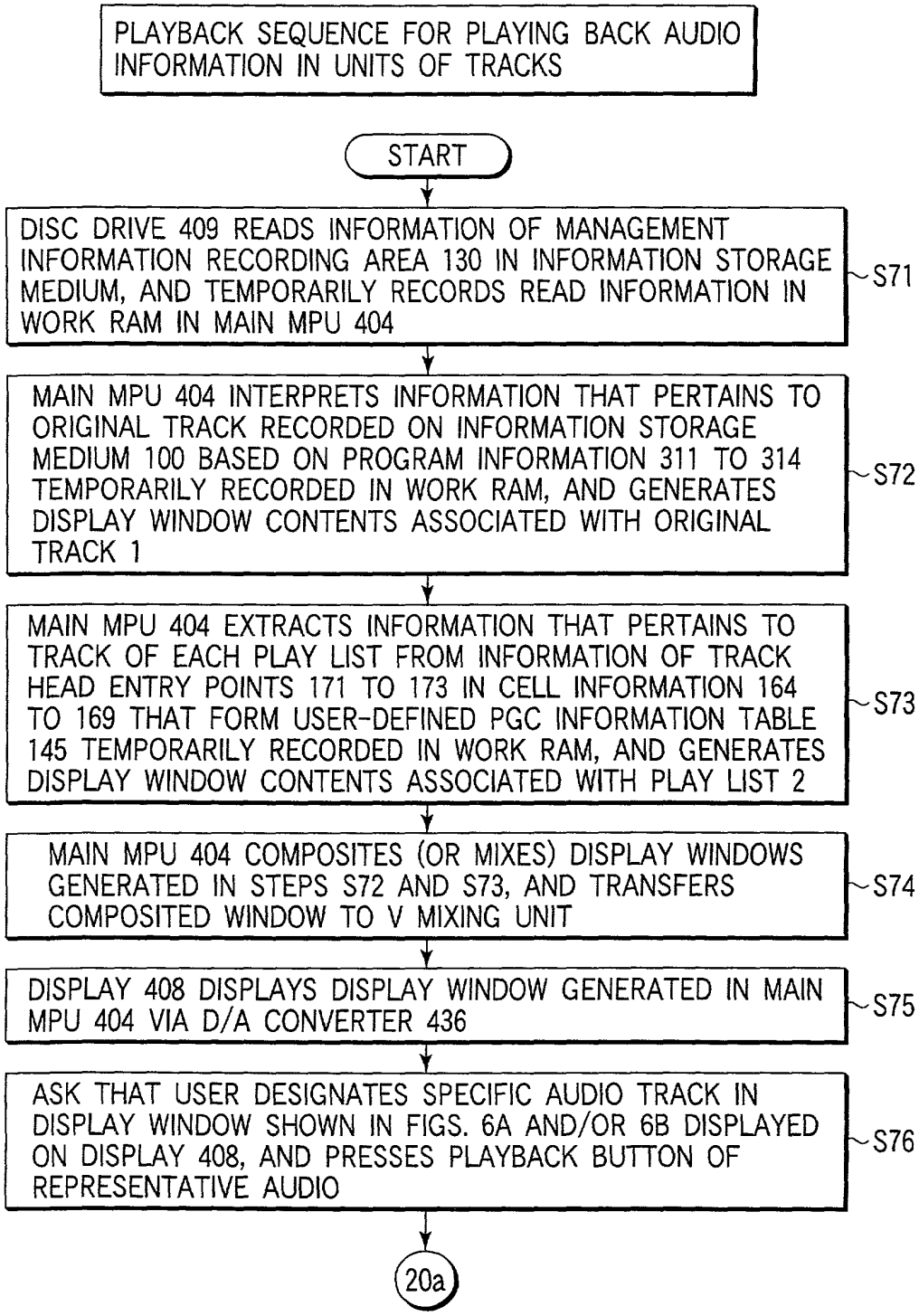

PLAYBACK SEQUENCE FOR PLAYING BACK AUDIO INFORMATION IN UNITS OF TRACKS
START
DISC DRIVE 409 READS INFORMATION OF MANAGEMENT INFORMATION RECORDING AREA 130 IN INFORMATION STORAGE MEDIUM, AND TEMPORARILY RECORDS READ INFORMATION IN WORK RAM IN MAIN MPU 404
S71
MAIN MPU 404 INTERPRETS INFORMATION THAT PERTAINS TO ORIGINAL TRACK RECORDED ON INFORMATION STORAGE MEDIUM 100 BASED ON PROGRAM INFORMATION 311 TO 314 TEMPORARILY RECORDED IN WORK RAM, AND GENERATES DISPLAY WINDOW CONTENTS ASSOCIATED WITH ORIGINAL TRACK 1
S72
MAIN MPU 404 EXTRACTS INFORMATION THAT PERTAINS TO TRACK OF EACH PLAY LIST FROM INFORMATION OF TRACK HEAD ENTRY POINTS 171 TO 173 IN CELL INFORMATION 164 TO 169 THAT FORM USER-DEFINED PGC INFORMATION TABLE 145 TEMPORARILY RECORDED IN WORK RAM, AND GENERATES DISPLAY WINDOW CONTENTS ASSOCIATED WITH PLAY LIST 2
S73
MAIN MPU 404 COMPOSITES (OR MIXES) DISPLAY WINDOWS GENERATED IN STEPS S72 AND S73, AND TRANSFERS COMPOSITED WINDOW TO V MIXING UNIT
S74
DISPLAY 408 DISPLAYS DISPLAY WINDOW GENERATED IN MAIN MPU 404 VIA D/A CONVERTER 436
S75
ASK THAT USER DESIGNATES SPECIFIC AUDIO TRACK IN DISPLAY WINDOW SHOWN IN FIGS. 6A AND/OR 6B DISPLAYED ON DISPLAY 408, AND PRESSES PLAYBACK BUTTON OF REPRESENTATIVE AUDIO
S76
20a

FIG. 24

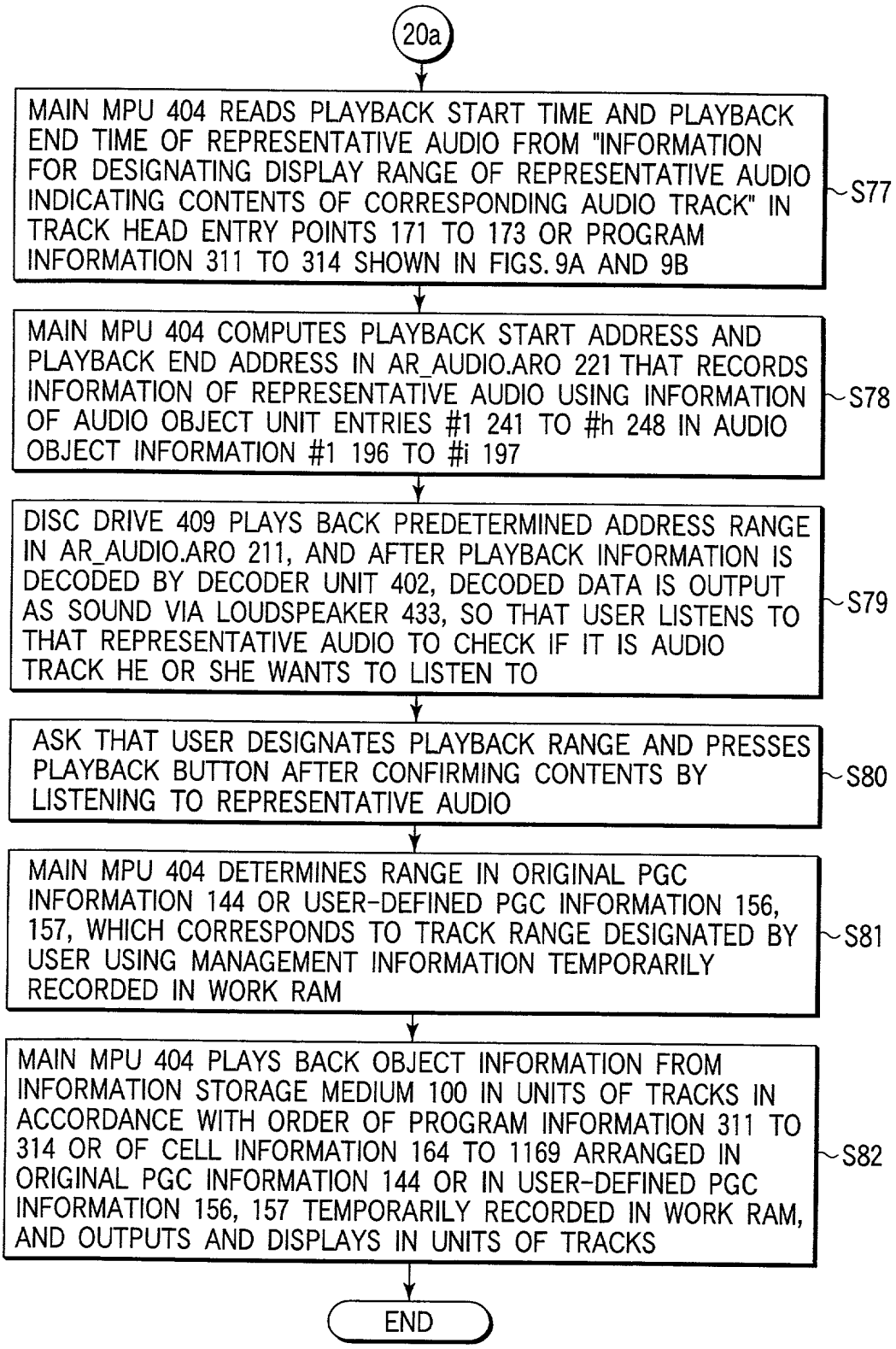

20a
MAIN MPU 404 READS PLAYBACK START TIME AND PLAYBACK END TIME OF REPRESENTATIVE AUDIO FROM "INFORMATION FOR DESIGNATING DISPLAY RANGE OF REPRESENTATIVE AUDIO INDICATING CONTENTS OF CORRESPONDING AUDIO TRACK" IN TRACK HEAD ENTRY POINTS 171 TO 173 OR PROGRAM INFORMATION 311 TO 314 SHOWN IN FIGS. 9A AND 9B
S77
MAIN MPU 404 COMPUTES PLAYBACK START ADDRESS AND PLAYBACK END ADDRESS IN AR_AUDIO.ARO 221 THAT RECORDS INFORMATION OF REPRESENTATIVE AUDIO USING INFORMATION OF AUDIO OBJECT UNIT ENTRIES #1 241 TO #h 248 IN AUDIO OBJECT INFORMATION #1 196 TO #i 197
S78
DISC DRIVE 409 PLAYS BACK PREDETERMINED ADDRESS RANGE IN AR_AUDIO.ARO 211, AND AFTER PLAYBACK INFORMATION IS DECODED BY DECODER UNIT 402, DECODED DATA IS OUTPUT AS SOUND VIA LOUDSPEAKER 433, SO THAT USER LISTENS TO THAT REPRESENTATIVE AUDIO TO CHECK IF IT IS AUDIO TRACK HE OR SHE WANTS TO LISTEN TO
S79
ASK THAT USER DESIGNATES PLAYBACK RANGE AND PRESSES PLAYBACK BUTTON AFTER CONFIRMING CONTENTS BY LISTENING TO REPRESENTATIVE AUDIO
S80
MAIN MPU 404 DETERMINES RANGE IN ORIGINAL PGC INFORMATION 144 OR USER-DEFINED PGC INFORMATION 156, 157, WHICH CORRESPONDS TO TRACK RANGE DESIGNATED BY USER USING MANAGEMENT INFORMATION TEMPORARILY RECORDED IN WORK RAM
S81
MAIN MPU 404 PLAYS BACK OBJECT INFORMATION FROM INFORMATION STORAGE MEDIUM 100 IN UNITS OF TRACKS IN ACCORDANCE WITH ORDER OF PROGRAM INFORMATION 311 TO 314 OR OF CELL INFORMATION 164 TO 1169 ARRANGED IN ORIGINAL PGC INFORMATION 144 OR IN USER-DEFINED PGC INFORMATION 156, 157 TEMPORARILY RECORDED IN WORK RAM, AND OUTPUTS AND DISPLAYS IN UNITS OF TRACKS
S82
END

FIG. 25

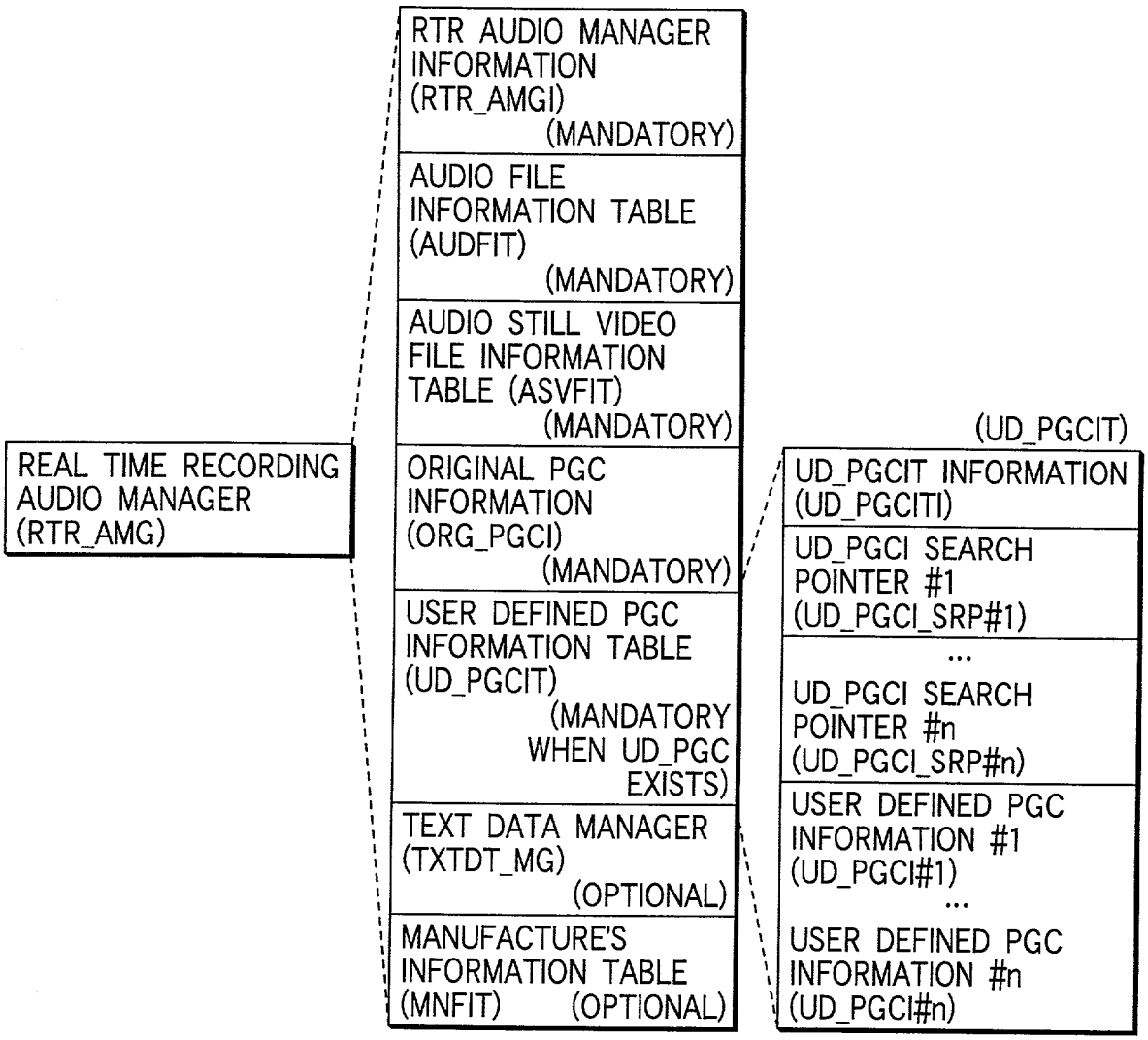

REAL TIME RECORDING AUDIO MANAGER (RTR_AMG)
RTR AUDIO MANAGER INFORMATION (RTR_AMGI) (MANDATORY)
AUDIO FILE INFORMATION TABLE (AUDFIT) (MANDATORY)
AUDIO STILL VIDEO FILE INFORMATION TABLE (ASVFIT) (MANDATORY)
ORIGINAL PGC INFORMATION (ORG_PGCI) (MANDATORY)
USER DEFINED PGC INFORMATION TABLE (UD_PGCIT) (MANDATORY WHEN UD_PGC EXISTS)
TEXT DATA MANAGER (TXTDT_MG) (OPTIONAL)
MANUFACTURE'S INFORMATION TABLE (MNFIT) (OPTIONAL)
(UD_PGCIT)
UD_PGCIT INFORMATION (UD_PGCITI)
UD_PGCI SEARCH POINTER #1 (UD_PGCI_SRP#1)
...
UD_PGCI SEARCH POINTER #n (UD_PGCI_SRP#n)
USER DEFINED PGC INFORMATION #1 (UD_PGCI#1)
...
USER DEFINED PGC INFORMATION #n (UD_PGCI#n)

FIG. 26

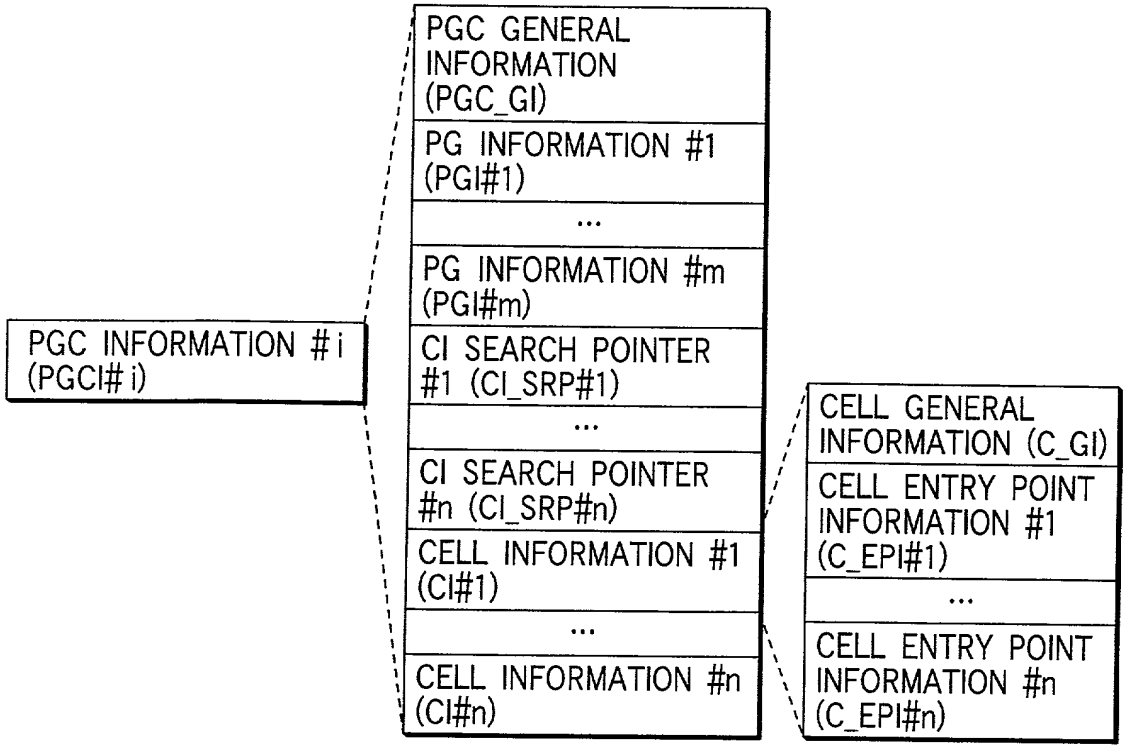

PGC INFORMATION # i
(PGCI# i)
PGC GENERAL INFORMATION (PGC_GI)
PG INFORMATION #1 (PGI#1)
...
PG INFORMATION #m (PGI#m)
CI SEARCH POINTER #1 (CI_SRP#1)
...
CI SEARCH POINTER #n (CI_SRP#n)
CELL INFORMATION #1 (CI#1)
...
CELL INFORMATION #n (CI#n)
CELL GENERAL INFORMATION (C_GI)
CELL ENTRY POINT INFORMATION #1 (C_EPI#1)
...
CELL ENTRY POINT INFORMATION #n (C_EPI#n)

FIG. 27

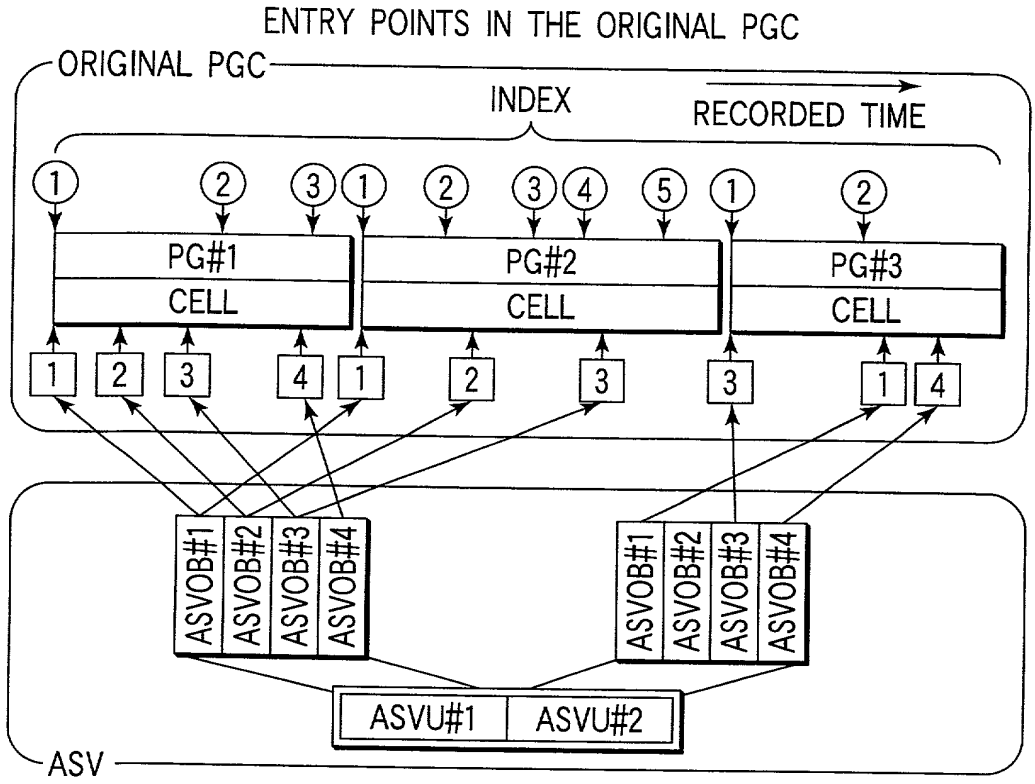


FIG. 28A

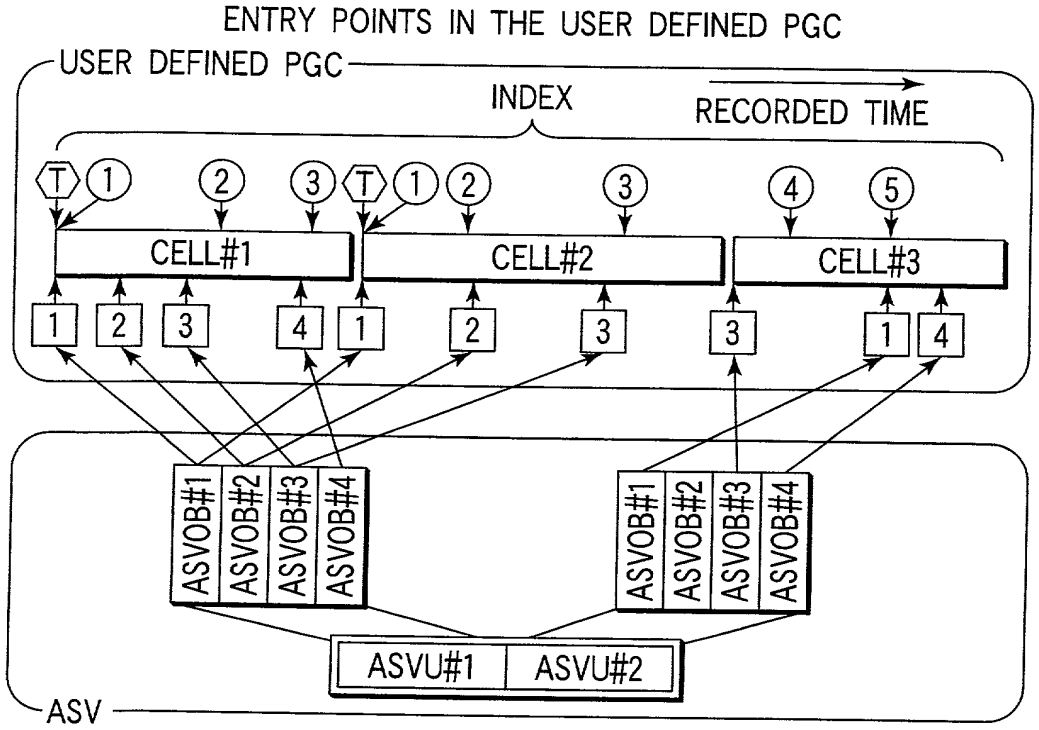


FIG. 28B

C_EPI (TYPE A1) (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	EP_TY	ENTRY POINT TYPE	1BYTE
1 TO 6	EP_PTM	PTM OF ENTRY POINTS	6BYTES
7 TO 134	PRM_TXT	PRIMARY TEXT INFORMATION	128BYTES
135 TO 136	IT_TXT_SRPN	IT_TXT SEARCH POINTER INFORMATION	2BYTES
137 TO 139	REP_PICTI	REPRESENTATIVE PICTURE INFORMATION	3BYTES
TOTAL			140BYTES

(RBP 0) EP_TY
DESCRIBES EP TYPE OF THIS ENTRY POINT

b7	b6	b5	b4	b3	b2	b1	b0
EP_TY1		EP_TY2		RESERVED			

EP_TY1 ··· '01b' SHALL BE DESCRIBED FOR TYPE A1 ENTRY POINT
EP_TY2 ··· '00b' SHALL BE DESCRIBED FOR TYPE A1 ENTRY POINT

EP_PTM
ALL BYTES SHALL BE SET TO '00h'

FIG. 29

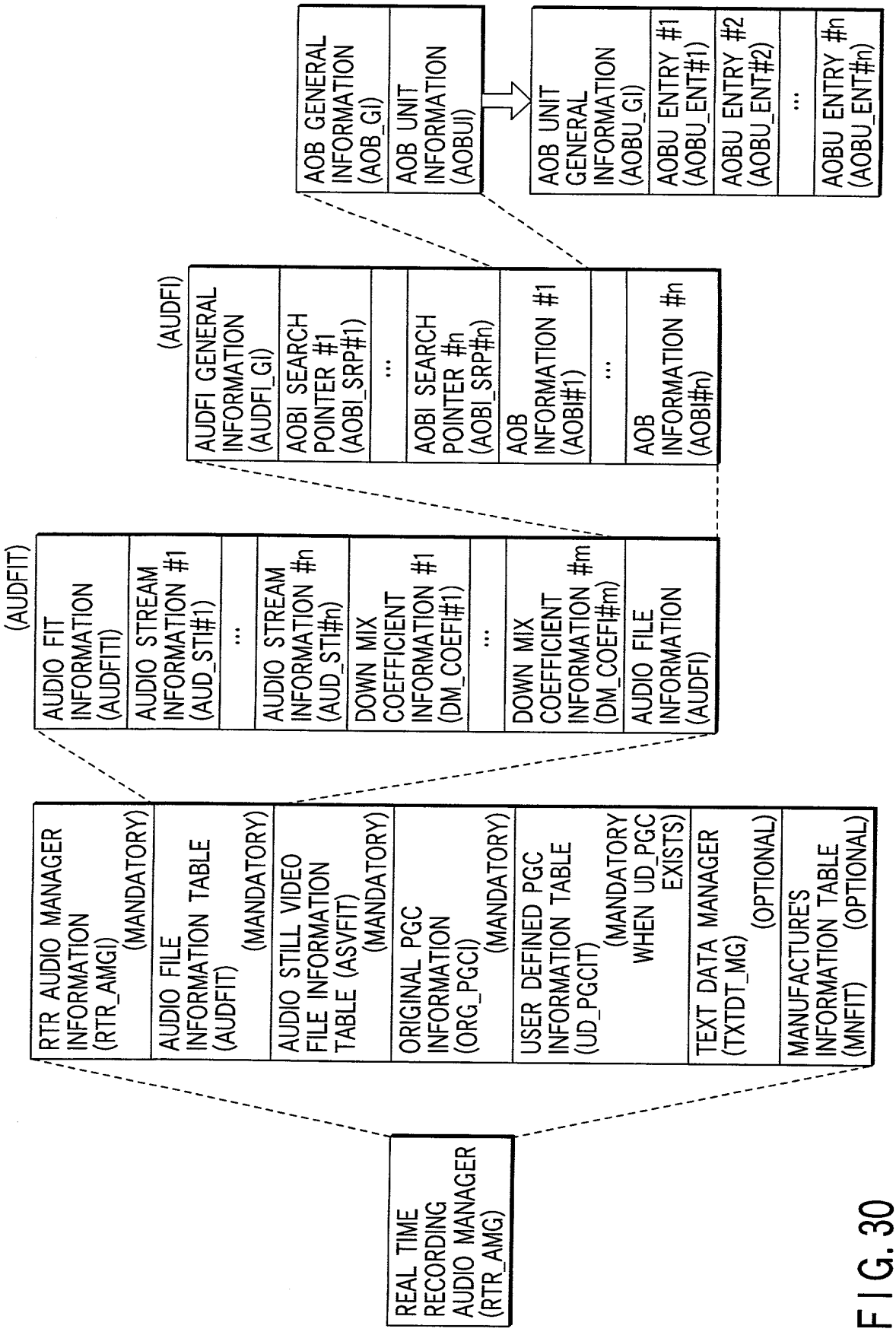

REAL TIME RECORDING AUDIO MANAGER (RTR_AMG)
RTR AUDIO MANAGER INFORMATION (RTR_AMGI) (MANDATORY)
AUDIO FILE INFORMATION TABLE (AUDFIT) (MANDATORY)
AUDIO STILL VIDEO FILE INFORMATION TABLE (ASVFIT) (MANDATORY)
ORIGINAL PGC INFORMATION (ORG_PGCI) (MANDATORY)
USER DEFINED PGC INFORMATION TABLE (UD_PGCIT) (MANDATORY WHEN UD_PGC EXISTS)
TEXT DATA MANAGER (TXTDT_MG) (OPTIONAL)
MANUFACTURER'S INFORMATION TABLE (MNFIT) (OPTIONAL)
(AUDFIT)
AUDIO FIT INFORMATION (AUDFITI)
AUDIO STREAM INFORMATION #1 (AUD_STI#1)
...
AUDIO STREAM INFORMATION #n (AUD_STI#n)
DOWN MIX COEFFICIENT INFORMATION #1 (DM_COEFI#1)
...
DOWN MIX COEFFICIENT INFORMATION #m (DM_COEFI#m)
AUDIO FILE INFORMATION (AUDFI)
(AUDFI)
AUDFI GENERAL INFORMATION (AUDFI_GI)
AOBI SEARCH POINTER #1 (AOBI_SRP#1)
...
AOBI SEARCH POINTER #n (AOBI_SRP#n)
AOB INFORMATION #1 (AOBI#1)
...
AOB INFORMATION #n (AOBI#n)
AOB GENERAL INFORMATION (AOB_GI)
AOB UNIT INFORMATION (AOBUI)
AOB UNIT GENERAL INFORMATION (AOBU_GI)
AOBU ENTRY #1 (AOBU_ENT#1)
AOBU ENTRY #2 (AOBU_ENT#2)
...
AOBU ENTRY #n (AOBU_ENT#n)

FIG. 30

AOBU ENTRY (AOBU_ENT)

b15	b14	b13	b12	b11	b10	b9	b8
RESERVED						AOBU_SZ (UPPER)	

b7	b6	b5	b4	b3	b2	b1	b0
AOBU_SZ (LOWER)							

AOBU_SZ ··· DESCRIBES THE SIZE OF THIS AOBU. THE SIZE IS SPECIFIED BY THE NUMBER OF PACKS IN THIS AOBU

FIG. 31

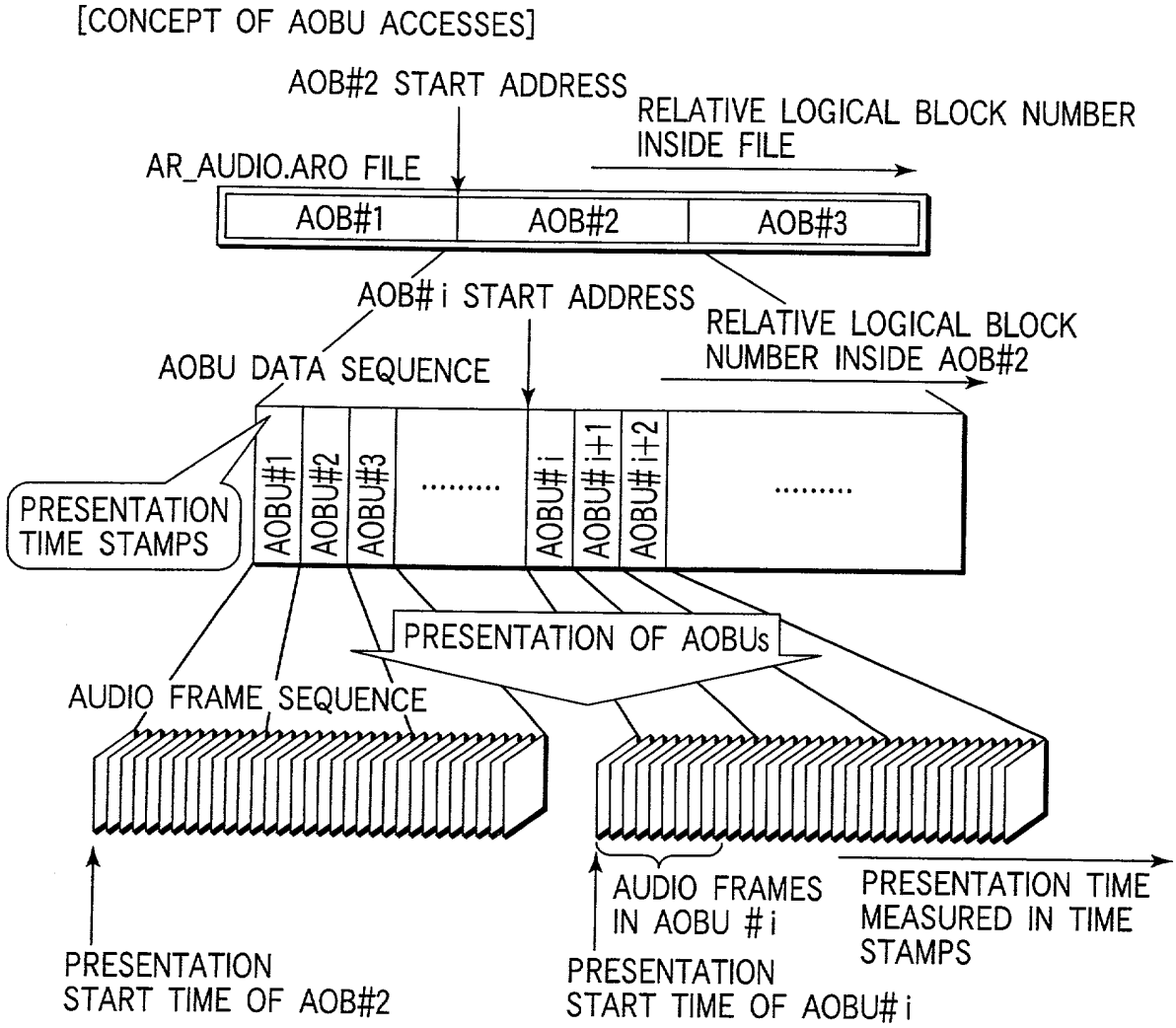


FIG. 32

[CONCEPT OF AOBU ENTRIES]

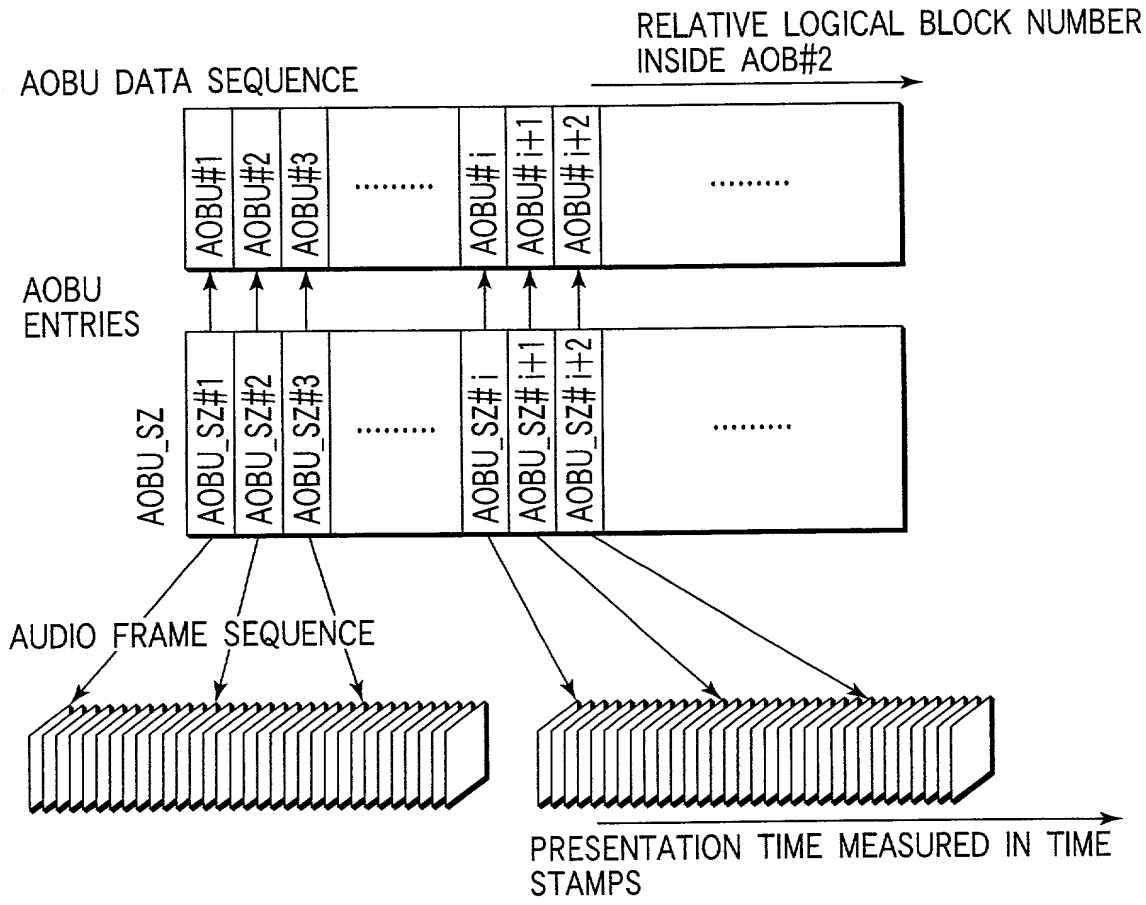


FIG. 33

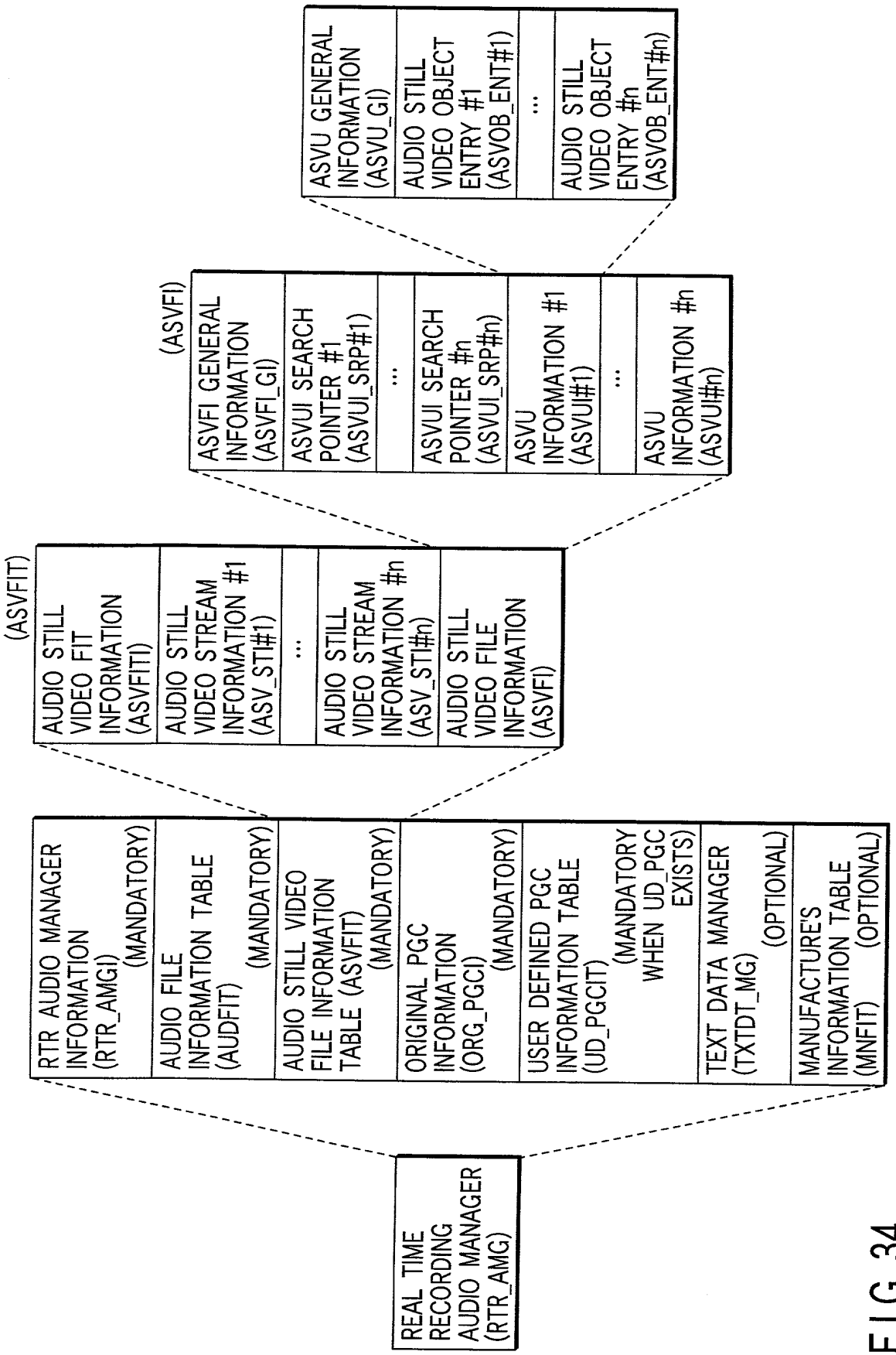

REAL TIME RECORDING AUDIO MANAGER (RTR_AMG)
RTR AUDIO MANAGER INFORMATION (RTR_AMGI) (MANDATORY)
AUDIO FILE INFORMATION TABLE (AUDFIT) (MANDATORY)
AUDIO STILL VIDEO FILE INFORMATION TABLE (ASVFIT) (MANDATORY)
ORIGINAL PGC INFORMATION (ORG_PGCI) (MANDATORY)
USER DEFINED PGC INFORMATION TABLE (UD_PGCIT) (MANDATORY WHEN UD_PGC EXISTS)
TEXT DATA MANAGER (TXTDT_MG) (OPTIONAL)
MANUFACTURE'S INFORMATION TABLE (MNFIT) (OPTIONAL)
(ASVFIT)
AUDIO STILL VIDEO FIT INFORMATION (ASVFITI)
AUDIO STILL VIDEO STREAM INFORMATION #1 (ASV_STI#1)
...
AUDIO STILL VIDEO STREAM INFORMATION #n (ASV_STI#n)
AUDIO STILL VIDEO FILE INFORMATION (ASVFI)
(ASVFI)
ASVFI GENERAL INFORMATION (ASVFI_GI)
ASVUI SEARCH POINTER #1 (ASVUI_SRP#1)
...
ASVUI SEARCH POINTER #n (ASVUI_SRP#n)
ASVU INFORMATION #1 (ASVUI#1)
...
ASVU INFORMATION #n (ASVUI#n)
ASVU GENERAL INFORMATION (ASVU_GI)
AUDIO STILL VIDEO OBJECT ENTRY #1 (ASVOB_ENT#1)
...
AUDIO STILL VIDEO OBJECT ENTRY #n (ASVOB_ENT#n)

FIG. 34

ASVOB_ENT (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	ASVOB_ENT_TY	ASVOB ENTRY TYPE	1BYTE
1	ASVOB_SZ	SIZE OF ASVOB	1BYTE
TOTAL			2BYTES

ASVOB_ENT_TY
DESCRIBES TE IN THE FOLLOWING FORMAT

b15	b14	b13	b12	b11	b10	b9	b8
RESERVED		TE	RESERVED				

TE ··· 00b : THIS ASVOB IS IN NORMAL STATE
01b : THIS ASVOB IS IN TEMPORARILY ERASED STATE

ASVOB_SZ
DESCRIBES THE SIZE OF ASVOB IN LBs (LOGICAL BLOCKS)

FIG. 35

[STRUCTURE OF THE ASVOB]

AR_STILL.ARO FILE

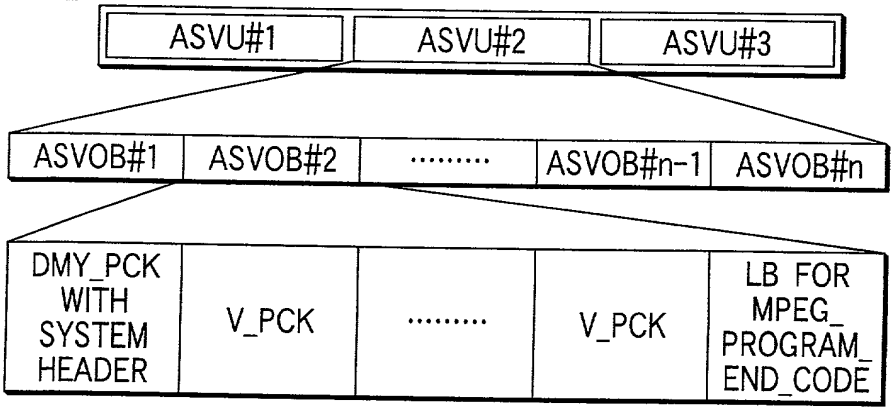


FIG. 36

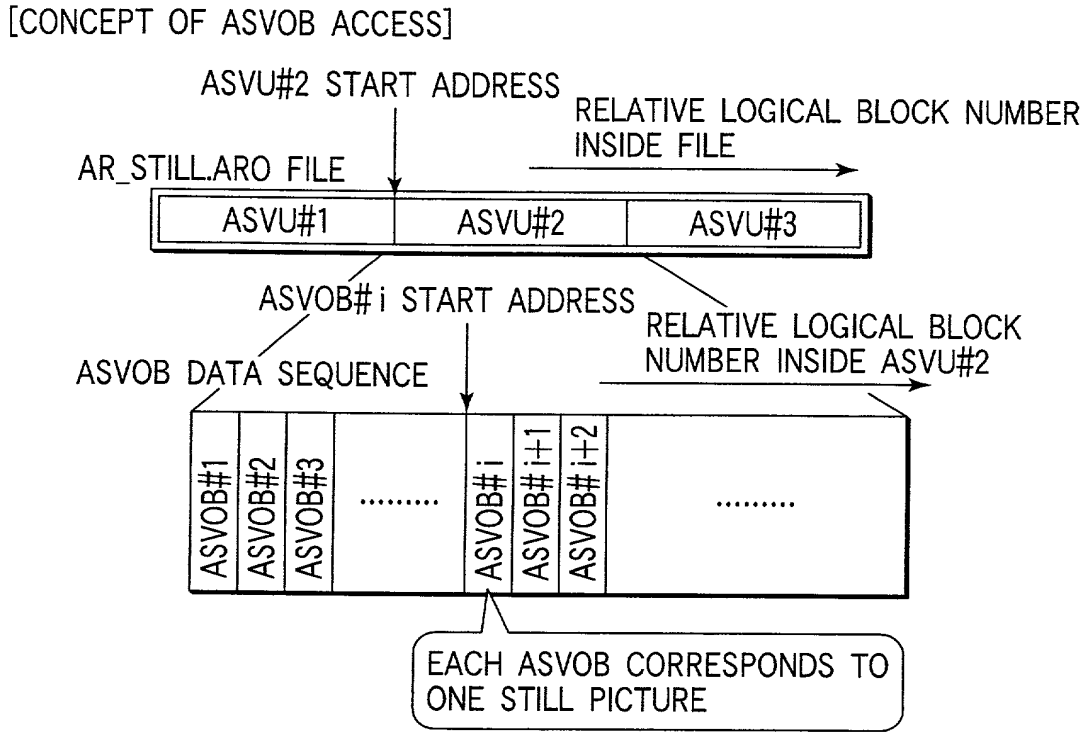

[CONCEPT OF ASVOB ACCESS]
ASVU#2 START ADDRESS
RELATIVE LOGICAL BLOCK NUMBER INSIDE FILE
AR_STILL.ARO FILE
ASVU#1
ASVU#2
ASVU#3
ASVOB# i START ADDRESS
RELATIVE LOGICAL BLOCK NUMBER INSIDE ASVU#2
ASVOB DATA SEQUENCE
ASVOB#1
ASVOB#2
ASVOB#3
.....
ASVOB# i
ASVOB# i+1
ASVOB# i+2
.....
EACH ASVOB CORRESPONDS TO ONE STILL PICTURE

FIG. 37

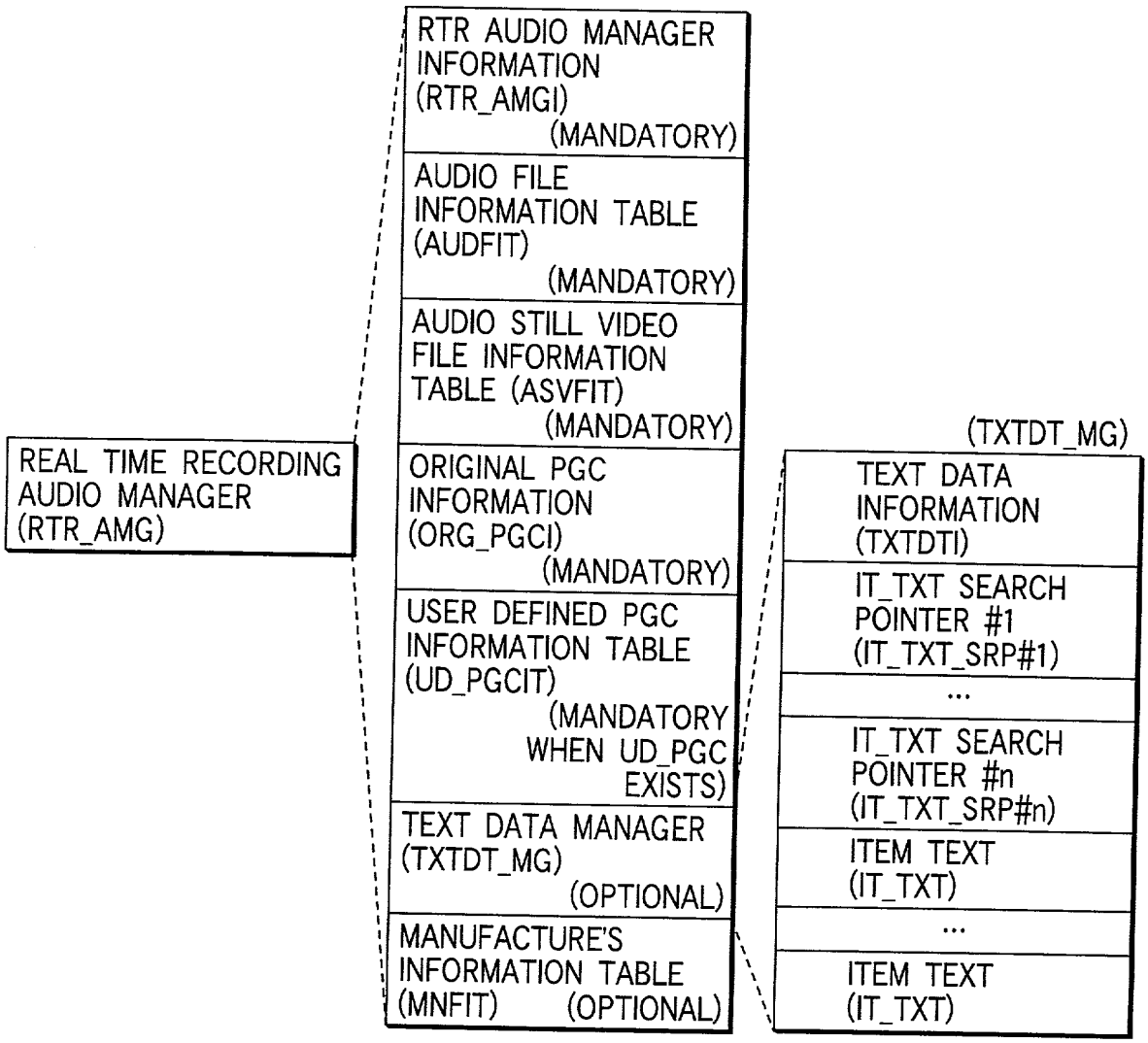

REAL TIME RECORDING AUDIO MANAGER (RTR_AMG)
RTR AUDIO MANAGER INFORMATION (RTR_AMGI) (MANDATORY)
AUDIO FILE INFORMATION TABLE (AUDFIT) (MANDATORY)
AUDIO STILL VIDEO FILE INFORMATION TABLE (ASVFIT) (MANDATORY)
ORIGINAL PGC INFORMATION (ORG_PGCI) (MANDATORY)
USER DEFINED PGC INFORMATION TABLE (UD_PGCIT) (MANDATORY WHEN UD_PGC EXISTS)
TEXT DATA MANAGER (TXTDT_MG) (OPTIONAL)
MANUFACTURE'S INFORMATION TABLE (MNFIT) (OPTIONAL)
(TXTDT_MG)
TEXT DATA INFORMATION (TXTDTI)
IT_TXT SEARCH POINTER #1 (IT_TXT_SRP#1)
...
IT_TXT SEARCH POINTER #n (IT_TXT_SRP#n)
ITEM TEXT (IT_TXT)
...
ITEM TEXT (IT_TXT)

FIG. 38

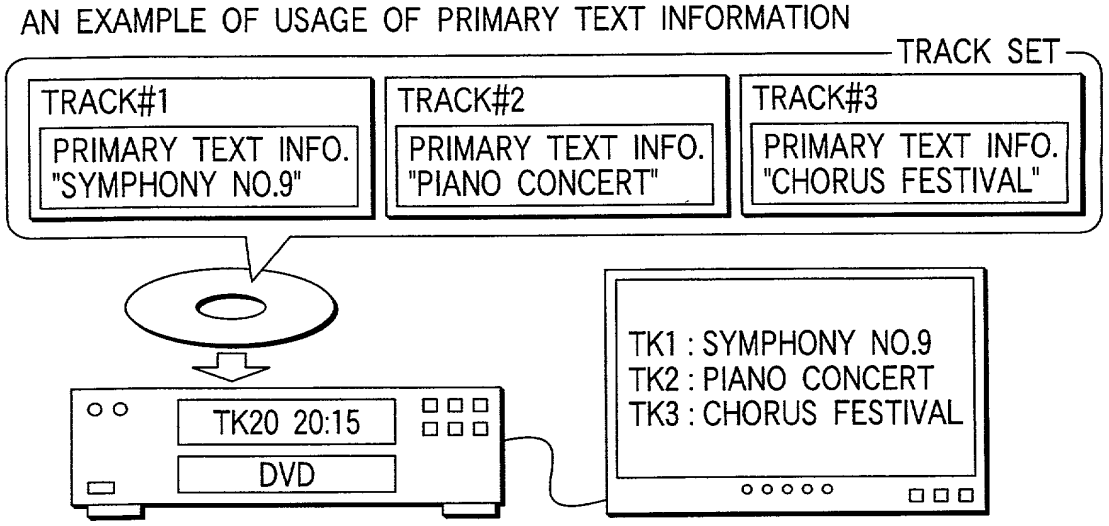

AN EXAMPLE OF USAGE OF PRIMARY TEXT INFORMATION
TRACK SET
TRACK#1
PRIMARY TEXT INFO.
"SYMPHONY NO.9"
TRACK#2
PRIMARY TEXT INFO.
"PIANO CONCERT"
TRACK#3
PRIMARY TEXT INFO.
"CHORUS FESTIVAL"
TK20 20:15
DVD
TK1 : SYMPHONY NO.9
TK2 : PIANO CONCERT
TK3 : CHORUS FESTIVAL

FIG. 39

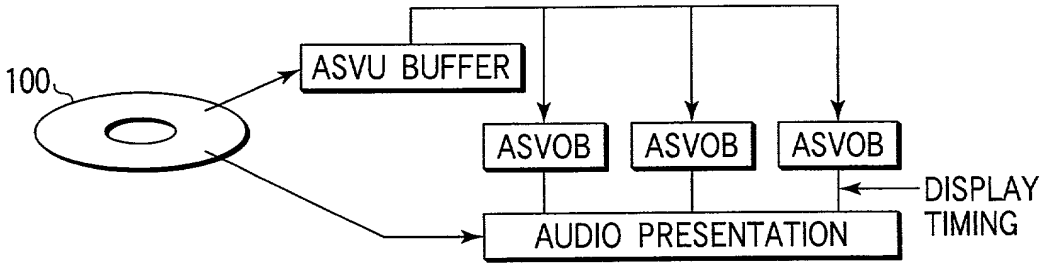

100
ASVU BUFFER
ASVOB
ASVOB
ASVOB
DISPLAY
TIMING
AUDIO PRESENTATION

FIG. 40

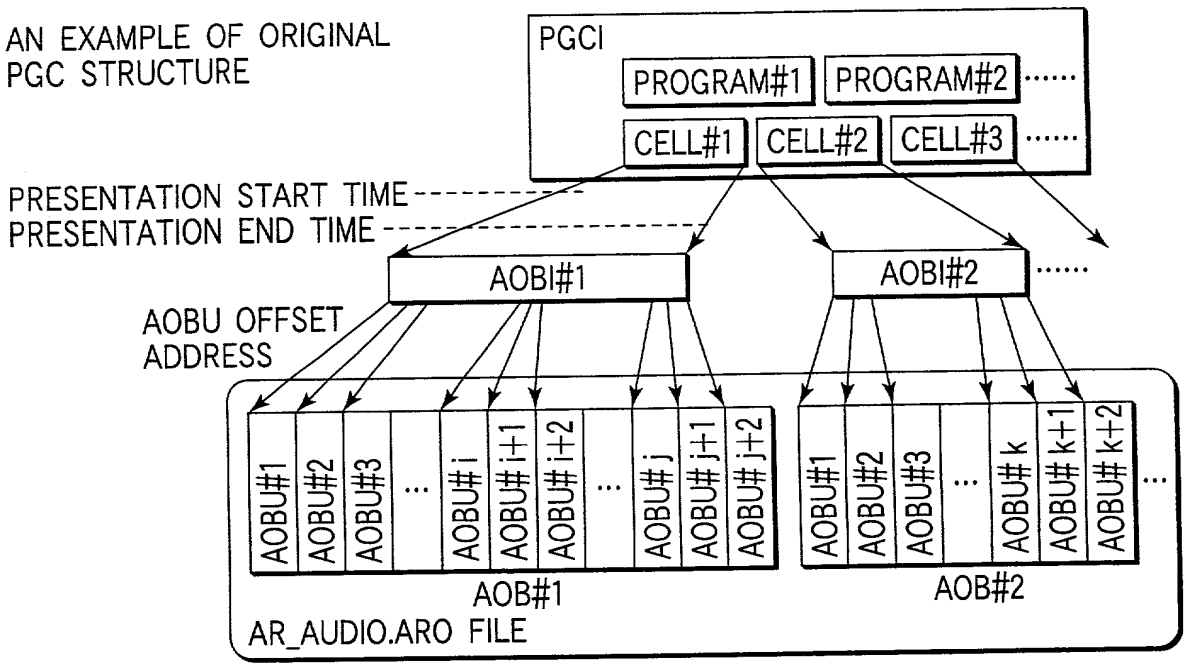

AN EXAMPLE OF ORIGINAL PGC STRUCTURE
PGCI
PROGRAM#1
PROGRAM#2
CELL#1
CELL#2
CELL#3
PRESENTATION START TIME
PRESENTATION END TIME
AOBI#1
AOBI#2
AOBU OFFSET ADDRESS
AOBU#1
AOBU#2
AOBU#3
AOBU# i
AOBU# i+1
AOBU# i+2
AOBU# j
AOBU# j+1
AOBU# j+2
AOBU# k
AOBU# k+1
AOBU# k+2
AOB#1
AOB#2
AR_AUDIO.ARO FILE

FIG. 41

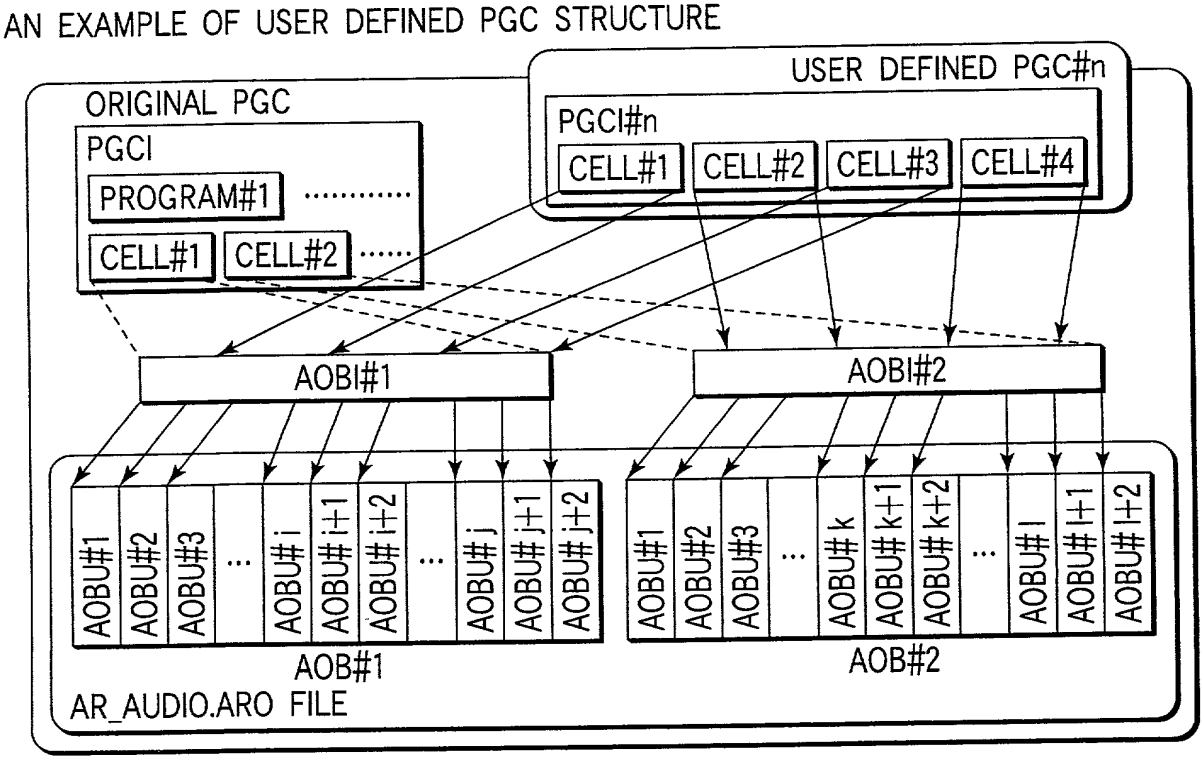
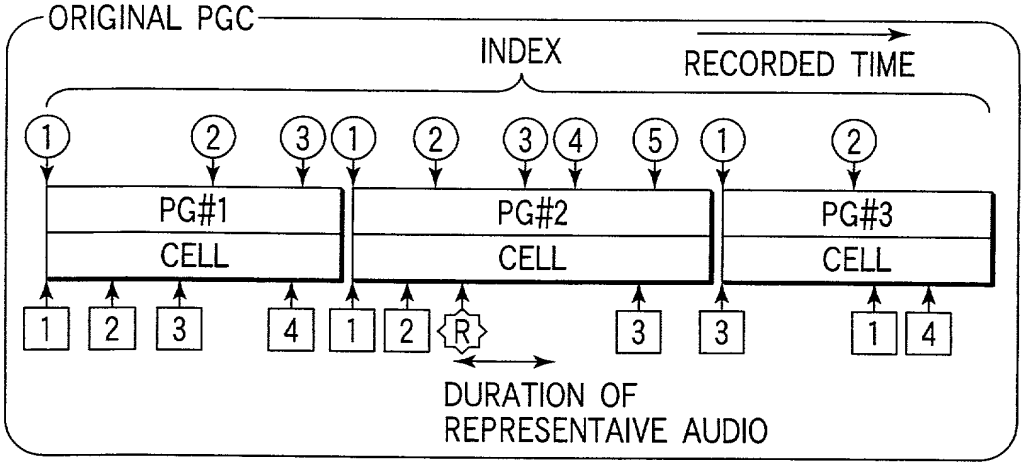

AN EXAMPLE OF USER DEFINED PGC STRUCTURE
ORIGINAL PGC
PGCI
PROGRAM#1
CELL#1
CELL#2
USER DEFINED PGC#n
PGCI#n
CELL#1
CELL#2
CELL#3
CELL#4
AOBI#1
AOBI#2
AOBU#1
AOBU#2
AOBU#3
AOBU# i
AOBU# i+1
AOBU# i+2
AOBU# j
AOBU# j+1
AOBU# j+2
AOBU# k
AOBU# k+1
AOBU# k+2
AOBU# l
AOBU# l+1
AOBU# l+2
AOB#1
AOB#2
AR_AUDIO.ARO FILE

FIG. 42

AN EXAMPLE OF ENTRY POINT FOR REPRESENTATIVE AUDIO



ⓘ : ENTRY POINT FOR INDEX (i=1,2,3,…)
[j] : ENTRY POINT FOR DISPLAY LIST (j=1,2,3,…)
⟨R⟩ : ENTRY POINT FOR REPRESENTATIVE AUDIO

FIG. 43

C_EPI (TYPE D2) (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	EP_TY	ENTRY POINT TYPE	1BYTE
1 TO 6	EP_PTM	PTM OF ENTRY POINTS	6BYTES
7 TO 12	RA_DUR	REPRESENTATIVE AUDIO DURATION	6BYTES
TOTAL			13BYTES

EP_TY
DESCRIBES EP TYPE OF THIS ENTRY POINT

b7	b6	b5	b4	b3	b2	b1	b0
EP_TY1		EP_TY2		RESERVED			

EP_TY1 … '00b' SHALL BE DESCRIBED FOR TYPE D2 ENTRY POINT
EP_TY2 … '11b' SHALL BE DESCRIBED FOR TYPE D2 ENTRY POINT

FIG. 44

C_EPI (TYPE B1) (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	EP_TY	ENTRY POINT TYPE	1BYTE
1 TO 6	EP_PTM	PTM OF ENTRY POINTS	6BYTES
7	IDXN	INDEX NUMBER	1BYTE
8 TO 135	PRM_TXT	PRIMARY TEXT INFORMATION	128BYTES
TOTAL			136BYTES

EP_TY
DESCRIBES EP TYPE OF THIS ENTRY POINT

b7	b6	b5	b4	b3	b2	b1	b0
EP_TY1		EP_TY2		RESERVED			

EP_TY1 ··· '01b' SHALL BE DESCRIBED FOR TYPE B1 ENTRY POINT
EP_TY2 ··· '01b' SHALL BE DESCRIBED FOR TYPE B1 ENTRY POINT

FIG. 45

C_EPI (TYPE B2) (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	EP_TY	ENTRY POINT TYPE	1BYTE
1 TO 6	EP_PTM	PTM OF ENTRY POINTS	6BYTES
7	IDXN	INDEX NUMBER	1BYTE
TOTAL			8BYTES

EP_TY
DESCRIBES EP TYPE OF THIS ENTRY POINT

b7	b6	b5	b4	b3	b2	b1	b0
EP_TY1		EP_TY2		RESERVED			

EP_TY1 ··· '00b' SHALL BE DESCRIBED FOR TYPE B2 ENTRY POINT
EP_TY2 ··· '01b' SHALL BE DESCRIBED FOR TYPE B2 ENTRY POINT

FIG. 46

C_EPI (TYPE C2) (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	EP_TY	ENTRY POINT TYPE	1BYTE
1 TO 6	EP_PTM	PTM OF ENTRY POINTS	6BYTES
7	ASVOB_ENTN	ENTRY NUMBER OF ASVOB	1BYTE
8	HOME_DLISTN	HOME DLIST NUMBER	1BYTE
9	S_EFFECT	START EFFECT	1BYTE
10	E_EFFECT	END EFFECT	1BYTE
11 TO 12	MAX_DUR	MAXMUM DURATION TIME	2BYTES
13 TO 14	MIN_DUR	MINIMUM DURATION TIME	2BYTES
TOTAL			15BYTES

EP_TY
DESCRIBES EP TYPE OF THIS ENTRY POINT

b7	b6	b5	b4	b3	b2	b1	b0
EP_TY1		EP_TY2		RESERVED			

EP_TY1 ··· '00b' SHALL BE DESCRIBED FOR TYPE C2 ENTRY POINT
EP_TY2 ··· '10b' SHALL BE DESCRIBED FOR TYPE C2 ENTRY POINT

FIG. 47

PGC_GI (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	RESERVED	RESERVED	1BYTE
1	PG_Ns	NUMBER OF PGs	1BYTE
2 TO 3	CI_SRP_Ns	NUMBER OF CI_SRPs	2BYTES
TOTAL			4BYTES

PG_Ns
DESCRIBES THE NUMBER OF PGs IN THIS PGC
IN CASE OF USER DEFINED PGC, PG_Ns SHALL BE SET TO '0'
NOTE : THE MAXIMUM NUMBER OF PGs FOR THE ORIGINAL PGC IS '99'

CI_SRP_Ns
DESCRIBES THE NUMBER OF CI_SRPs IN THIS PGC
NOTE : THE MAXIMUM NUMBER OF CI_SRPs IS '999'

FIG. 48

PGI (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
0	RESERVED	RESERVED	1BYTE
1	PG_TY	PROGRAM TYPE	1BYTE
2 TO 3	C_Ns	NUMBER OF CELLS IN THIS PG	2BYTES
4 TO 131	PRM_TXTI	PRIMARY TEXT INFORMATION	128BYTES
132 TO 133	IT_TXT_SRPN	IT_TXT SEARCH POINTER NUMBER	2BYTES
134 TO 141	REP_PICTI	REPRESENTATIVE PICTURE INFORMATION	8BYTES
TOTAL			142BYTES

PG_TY
DESCRIBES PROGRAM TYPE OF THIS PG

b7	b6	b5	b4	b3	b2	b1	b0
PROTECT	RESERVED						

PROTECT ··· 0b : THIS PG IS NOT IN PROTECTED STATE
1b : THIS PG IS IN PROTECTED STATE

NOTE : WHEN A PG IS IN PROTECTED STATE, ALL THE AOBs REFERRED AND UTILIZED IN THE PRESENTATION OF THAT PG SHALL NOT BE TEMPORARILY OR PERMANENTLY ERASED.
PROTECT FLAGS SHALL NOT BE SET TO '1b' UNLESS ALL THE AOBs AND ASVOBs REFERRED BY THIS PG ARE IN NOMAL STATE

FIG. 49

REP_PICTI (DESCRIPTION ORDER)

RBP	FIELD NAME	CONTENTS	NUMBER OF BYTES
134 TO 135	ASVUN	ASVU NUMBER	2BYTES
136	ASVOB_ENTN	ASVOB_ENT NUMBER	1BYTE
137 TO 141	RESERVED	RESERVED	5BYTES
TOTAL			8BYTES

ASVUN
DESCRIBES THE ASVU NUMBER IN WHICH THIS REPRESENTATIVE PICTURE FOR TRACK EXISTS

ASVOB_ENTN
DESCRIBES THE ASVOB_ENT NUMBER IN WHICH THIS REPRESENTATIVE PICTURE FOR TRACK EXISTS

FIG. 50